

ELHILO 10./660536 10/26/04 Page 1

=> FILE REG  
FILE 'REGISTRY' ENTERED AT 15:00:25 ON 26 OCT 2004  
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DICTIONARY FILE UPDATES: 25 OCT 2004 HIGHEST RN 769101-30-6

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
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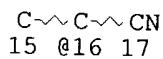
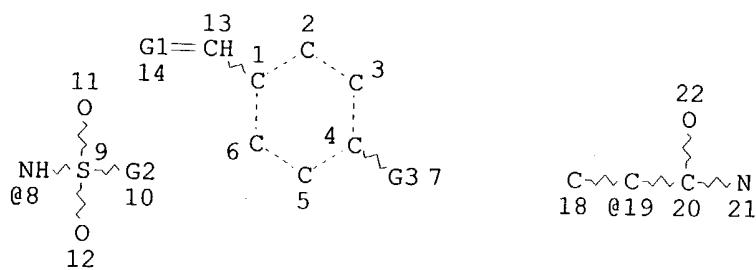
=> FILE HCAPLUS  
FILE 'HCPALUS' ENTERED AT 15:00:30 ON 26 OCT 2004  
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FILE COVERS 1907 - 26 Oct 2004 VOL 141 ISS 18  
FILE LAST UPDATED: 25 Oct 2004 (20041025/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L76  
L63 SCR 1015  
L68 SCR 29 OR 41  
L70 STR



13,703 structures from this  
query

VAR G1=16/19/CY  
 VAR G2=AK/CY  
 VAR G3=OH/8  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ELEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 22

## STEREO ATTRIBUTES: NONE

L72 SCR 1788 OR 1700  
 L74 13703 SEA FILE=REGISTRY SSS FUL L70 AND L63 AND L68 AND L72  
 L75 3915 SEA FILE=HCAPLUS ABB=ON L74  
 L76 18 SEA FILE=HCAPLUS ABB=ON L75(L) (HAIR OR KERAT?)

=> D L76 BIB ABS IND HITSTR 1-18

L76 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:781935 HCAPLUS  
 DN 141:282410  
 TI Hair dye compositions containing direct dyes having dissociating groups  
 IN Kawagishi, Toshio; Dominic, Pratt  
 PA Kao Corp., Japan; Fuji Photo Film Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 38 pp.

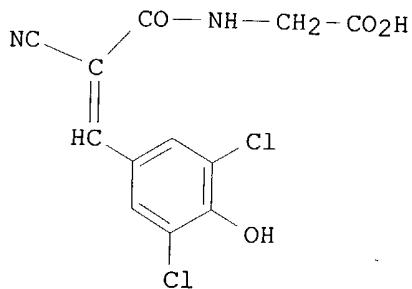
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004262888	A2	20040924	JP 2003-56768	20030304
PRAI	JP 2003-56768		20030304		
GI					



I

AB The hair dye compns. contain direct dyes DYE-(L)<sub>n</sub>-DIS (DYE = residue of dye having dissociating H atom in chromophore and maximum absorption at 400-700 nm in dissociated state; L = divalent linking group; n = 0, 1, 2; DIS = dissociating group). Goat hair was dyed well with a hair dye foam composition

(pH 8.5) containing a direct dye I 0.5, monoethanolamine 1, EtOH 15, propylene glycol 10, polyoxyethylene octyldodecyl ether 10, polyoxyethylene tridecyl ether 9, oleic acid diethanolamide 8, oleyl alc. 2, NH4Cl, LPG 10, and H2O to 100 weight% showed good color fastness to shampooing.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair direct dye color fastness

IT Dyes

(direct; hair dye compns. containing direct dyes having dissociating groups)

IT Hair preparations

(dyes; hair dye compns. containing direct dyes having dissociating groups)

IT 760191-15-9 760191-16-0 760191-17-1

760191-18-2 760191-19-3 760191-20-6 760191-21-7

760191-22-8 760191-23-9 760191-24-0 760191-25-1 760191-26-2

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dye compns. containing direct dyes having dissociating groups)

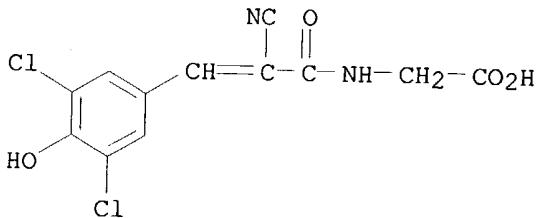
IT 760191-15-9 760191-16-0 760191-18-2

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(hair dye compns. containing direct dyes having dissociating groups)

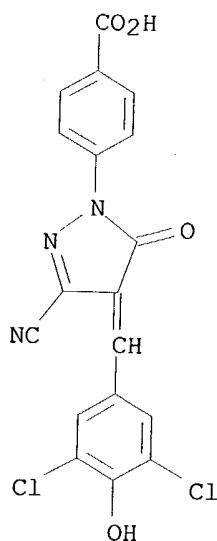
RN 760191-15-9 HCPLUS

CN Glycine, N-[2-cyano-3-(3,5-dichloro-4-hydroxyphenyl)-1-oxo-2-propenyl]-  
(9CI) (CA INDEX NAME)

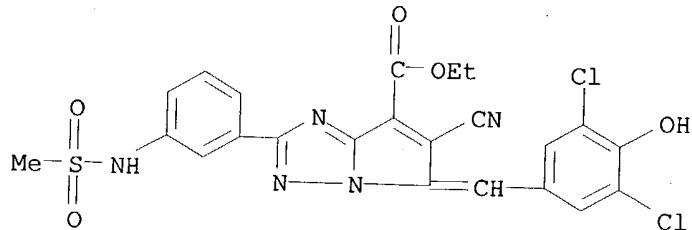


RN 760191-16-0 HCPLUS

CN Benzoic acid, 4-[3-cyano-4-[(3,5-dichloro-4-hydroxyphenyl)methylene]-4,5-dihydro-5-oxo-1H-pyrazol-1-yl]- (9CI) (CA INDEX NAME)



RN 760191-18-2 HCAPLUS  
 CN 5H-Pyrrolo[1,2-b][1,2,4]triazole-7-carboxylic acid, 6-cyano-5-[(3,5-dichloro-4-hydroxyphenyl)methylene]-2-[3-[(methylsulfonyl)amino]phenyl]-, ethyl ester (9CI) (CA INDEX NAME)



L76 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:549442 HCAPLUS  
 DN 141:93976  
 TI Oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compounds  
 IN Moeller, Hinrich; Hoeffkes, Horst; Oberkobusch, Doris  
 PA Henkel Kgaa, Germany  
 SO Ger. Offen., 39 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10260881	A1	20040708	DE 2002-10260881	20021223
	WO 2004058200	A1	20040715	WO 2003-EP13812	20031206
	W: JP				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				

PRAI DE 2002-10260881 A 20021223  
OS MARPAT 141:93976

- AB The invention concerns oxidative hair dyes that are composed of (A) primary amino group-containing chromophores that adsorb at 350-750 nm; (B) reactive carbonyl compds.; (C) optionally CH-acidic group-containing compds., primary and secondary amines, hydroxyl compds. Direct dyes, color enhancers and surfactants can be added. Thus in a hair dyeing experiment 5 mmol 4-amino-4'-dimethylaminostilbene and 5 mmol glutacon aldehyde sodium salt were mixed with 5 mmol sodium acetate, one drop of 25% fatty alkyl sulfate solution and 50 mL water; pH was set to 6; a rusty red color was obtained.
- IC ICM A61K007-13  
ICS D06P003-10; D06P003-14; D06P003-30
- CC 62-3 (Essential Oils and Cosmetics)
- ST oxidative hair dye amino group chromophore reactive carbonyl compd
- IT Acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(CH-acids; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Surfactants  
(anionic; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Dyes  
(direct; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Hair preparations  
(dyes, oxidative; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Flavonoids  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(dyes; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Surfactants  
(nonionic; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Amino group  
Anthraquinone dyes  
Azo dyes  
Chromophores  
Cyanine dyes  
Optical absorption  
Oxidizing agents  
Wavelength  
(oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Bromides, biological studies  
Carbonyl compounds (organic), biological studies  
Chlorides, biological studies  
Iodides, biological studies  
Perchlorates  
Sulfates, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(primary; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)
- IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (secondary; oxidative hair dyes composed of primary amino group-containing  
 chromophores and reactive carbonyl compds.)

IT Surfactants  
 (zwitterionic; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)

IT 519-73-3D, Triphenyl methane, derivs.  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (dyes; oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compds.)

IT 62-53-3, Aniline, biological studies 66-72-8, Pyridoxal 67-52-7,  
 Barbituric acid 70-70-2 71-00-1, L-Histidine, biological studies  
 74-79-3, L-Arginine, biological studies 75-75-2D, Methanesulfonic acid,  
 salt 75-93-4D, Methylsulfuric acid, salt 81-93-6, Phenosafranine  
 82-28-0, C.I. 60700 83-33-0, 1-Indanone 84-83-3, 2-Formylmethylenem-  
 1,3,3-trimethylindoline 86-40-8, 3,6-Diamino-10-methylacridinium  
 chloride 86-51-1, 2,3-Dimethoxybenzaldehyde 87-02-5,  
 7-Amino-4-hydroxynaphthalene-2-sulfonic acid 88-21-1, 2-Aminobenzene  
 sulfonic acid 88-74-4, 2-Nitroaniline 89-25-8, 1-Phenyl-3-  
 methylpyrazol-5-one 89-57-6, 5-Aminosalicylic acid 89-84-9 90-02-8,  
 Salicylaldehyde, biological studies 90-20-0, 4-Amino-5-  
 hydroxynaphthalene-2,7-disulfonic acid 90-44-8, Anthrone 91-29-2,  
 4'-Amino-4-nitrodiphenylamine-2-sulfonic acid 91-56-5, Isatin 91-95-2,  
 3,3',4,4'-Tetraaminodiphenyl 92-65-9, N-(2-Hydroxyethyl)-N-ethyl-p-  
 phenylenediamine 93-02-7, 2,5-Dimethoxybenzaldehyde 93-05-0,  
 N,N-Diethyl-p-phenylenediamine 93-55-0, Propiophenone 95-01-2,  
 2,4-Dihydroxybenzaldehyde 95-54-5, o-Phenylenediamine, biological  
 studies 95-55-6, 2-Aminophenol 95-70-5, 2,5-Diaminotoluene 96-91-3,  
 Picramic acid 96-93-5, 3-Amino-4-hydroxy-5-nitrobenzene sulfonic acid  
 97-51-8, 2-Hydroxy-5-nitrobenzaldehyde 98-01-1, Furfural, biological  
 studies 98-11-3D, Benzene sulfonic acid, salt 98-37-3,  
 3-Amino-4-hydroxybenzene sulfonic acid 98-79-3, Pyrrolidone-5-carboxylic  
 acid 98-86-2, Acetophenone, biological studies 99-05-8, 3-Aminobenzoic  
 acid 99-07-0 99-31-0, 5-Aminoisophthalic acid 99-56-9,  
 1,2-Diamino-4-nitrobenzene 99-61-6, 3-Nitrobenzaldehyde 99-92-3  
 99-93-4, 4-Hydroxyacetophenone 99-98-9, N,N-Dimethyl-p-phenylenediamine  
 100-01-6, 4-Nitroaniline, biological studies 100-10-7,  
 4-Dimethylaminobenzaldehyde 100-83-4, 3-Hydroxybenzaldehyde 101-77-9,  
 4,4'-Diaminodiphenylmethane 101-80-4, 4,4'-Diaminodiphenyl ether  
 104-15-4D, p-Toluene sulfonic acid, salt 106-50-3, p-Phenylenediamine,  
 biological studies 108-45-2, m-Phenylenediamine, biological studies  
 108-72-5, 1,3,5-Triaminobenzene 109-00-2, 3-Hydroxypyridine 110-85-0,  
 Piperazidine, biological studies 110-86-1, Pyridine, biological studies  
 110-89-4, Piperidine, biological studies 116-63-2 117-39-5, Quercetin  
 118-12-7 118-70-7, 4,5,6-Triaminopyrimidine 118-92-3, 2-Aminobenzoic  
 acid 118-93-4 119-34-6, 4-Amino-2-nitrophenol 119-59-5,  
 4,4'-Diaminodiphenylsulfoxide 119-61-9, Benzophenone, biological studies  
 119-70-0, 4,4'-Diaminodiphenylamine-2-sulfonic acid 120-14-9,  
 3,4-Dimethoxybenzaldehyde 120-21-8, 4-Diethylaminobenzaldehyde  
 120-46-7, 2-Benzoylacetophenone 120-57-0, Piperonal 120-72-9D, Indole,  
 derivs. 121-32-4, 3-Ethoxy-4-hydroxybenzaldehyde 121-33-5, Vanillin  
 121-47-1, 3-Aminobenzene sulfonic acid 121-57-3, 4-Aminobenzene sulfonic  
 acid 121-71-1 122-57-6 123-08-0, 4-Hydroxybenzaldehyde 123-11-5,  
 4-Methoxybenzaldehyde, biological studies 123-30-8, 4-Aminophenol  
 123-75-1, Pyrrolidine, biological studies 126-81-8, 5,5-  
 Dimethylcyclohexane-1,3-dione 128-95-0, 1,4-Diaminoanthraquinone  
 131-22-6,  $\alpha$ -Naphthyl red 131-56-6, 2,4-Dihydroxybenzophenone  
 134-96-3, 4-Hydroxy-3,5-dimethoxybenzaldehyde 135-02-4,  
 2-Methoxybenzaldehyde 139-65-1, 4,4'-Diaminodiphenylsulfide 139-85-5,

3,4-Dihydroxybenzaldehyde 141-84-4, Rhodanine 141-86-6,  
 2,6-Diaminopyridine 142-08-5, 2-Hydroxypyridine 147-85-3, L-Proline,  
 biological studies 150-13-0, 4-Aminobenzoic acid 150-75-4,  
 4-Methylaminophenol 156-81-0, 2,4-Diaminopyrimidine 288-13-1, Pyrazole  
 288-32-4, Imidazole, biological studies 288-88-0, 1H-1,2,4-Triazole  
 326-91-0 350-03-8 387-46-2, 2,6-Dihydroxybenzaldehyde 452-58-4,  
 2,3-Diaminopyridine 458-36-6, Coniferylaldehyde 477-73-6 480-66-0  
 486-25-9, 9-Fluorenone 487-70-7, 2,4,6-Trihydroxybenzaldehyde  
 487-89-8, 1H-Indole-3-carboxaldehyde 490-78-8 491-38-3, Chromone  
 491-67-8, 5,6,7-Trihydroxyflavone 496-15-1D, Indoline, derivs.  
 498-02-2 498-94-2, Piperidine-4-carboxylic acid 498-95-3,  
 Piperidine-3-carboxylic acid 500-22-1, 3-Pyridinecarboxaldehyde  
 504-17-6, Thiobarbituric acid 504-24-5, 4-Aminopyridine 520-36-5,  
 4',5,7-Trihydroxyflavone 525-82-6, Flavone 528-21-2 528-75-6,  
 2,4-Dinitrobenzaldehyde 531-53-3, Azur A 531-57-7, Azure C 532-82-1,  
 C.I. 11270 533-31-3, 3,4-Methylenedioxyphenol 535-75-1,  
 Piperidine-2-carboxylic acid 535-87-5, 3,5-Diaminobenzoic acid  
 537-65-5, 4,4'-Diaminodiphenylamine 539-17-3 548-83-4,  
 3,5,7-Trihydroxyflavone 552-89-6, 2-Nitrobenzaldehyde 553-24-2,  
 Neutral red 555-16-8, 4-Nitrobenzaldehyde, biological studies  
 569-61-9, C.I. 42500 570-24-1, 6-Nitro-o-toluidine 574-19-6 577-56-0  
 577-85-5, 3-Hydroxyflavone 578-66-5, 8-Aminoquinoline 579-72-6,  
 2-Dimethylaminobenzaldehyde 580-17-6, 3-Aminoquinoline 580-22-3,  
 2-Aminoquinoline 581-64-6, C.I. 52000 586-89-0 591-27-5,  
 3-Aminophenol 591-31-1, 3-Methoxybenzaldehyde 603-81-6,  
 2,3-Diaminobenzoic acid 605-59-4, 1-Ethyl-4-methylquinolinium iodide  
 606-23-5, 1H-Indene-1,3(2H)-dione 606-31-5, 2,6-Dinitrobenzaldehyde  
 606-55-3, 1-Ethyl-2-methylquinolinium iodide 606-57-5,  
 2-Amino-1-nitronaphthalene 608-97-9, Pentaaminobenzene 610-74-2,  
 2,5-Diaminobenzoic acid 610-81-1, 4-Amino-3-nitrophenol 610-99-1  
 611-03-0, 2,4-Diaminobenzoic acid 611-09-6, 5-Nitroisatin 611-98-3,  
 4,4'-Diaminobenzophenone 611-99-4, 4,4'-Dihydroxybenzophenone  
 613-45-6, 2,4-Dimethoxybenzaldehyde 613-69-4, 2-Ethoxybenzaldehyde  
 614-16-4, Benzoylacetone trile 615-66-7, 2-Chloro-p-phenylenediamine  
 615-71-4, 1,2,4-Triaminobenzene 616-45-5, Pyrrolidone 616-47-7,  
 1-Methylimidazole 619-05-6, 3,4-Diaminobenzoic acid 621-59-0,  
 3-Hydroxy-4-methoxybenzaldehyde 623-30-3 626-64-2, 4-Hydroxypyridine  
 632-99-5, Basic Violet 14 636-25-9, 2,5-Diamino-phenol 673-22-3,  
 2-Hydroxy-4-methoxybenzaldehyde 698-63-5, 5-Nitrofurfural, biological  
 studies 699-83-2 703-80-0 704-13-2, 3-Hydroxy-4-nitrobenzaldehyde  
 708-06-5, 2-Hydroxy-1-naphthaldehyde 711-79-5 712-97-0,  
 6-Nitropiperonal 779-90-8, 1,3,5-Triacetylbenzene 821-42-1,  
 2-Pentenedial 830-74-0, 1-Allylisatin 830-79-5, 2,4,6-  
 Trimethoxybenzaldehyde 832-58-6, 2,4,6-Trimethoxyacetophenone  
 872-85-5, 4-Pyridinecarboxaldehyde 873-74-5, 4-Aminobenzonitrile  
 876-87-9, 1,2-Dimethylquinolinium iodide 932-16-1 934-22-5,  
 5-Aminobenzimidazole 943-88-4 950-81-2 1004-74-6,  
 2,4,5,6-Tetraaminopyrimidine 1004-75-7, 4-Hydroxy-2,5,6-  
 triaminopyrimidine 1009-61-6, 1,4-Diacetylbenzene 1080-12-2  
 1080-74-6 1081-48-7 1121-60-4, 2-Pyridinecarboxaldehyde 1122-54-9  
 1122-62-9 1123-55-3, 7-Aminobenzothiazole 1123-93-9,  
 5-Aminobenzothiazole 1125-60-6, 5-Aminoisoquinoline 1136-86-3  
 1137-42-4, 4-Hydroxybenzophenone 1143-38-0, 1,8-Dihydroxyanthrone  
 1143-72-2, 2,3,4-Trihydroxybenzophenone 1192-58-1 1194-98-5,  
 2,5-Dihydroxybenzaldehyde 1197-55-3, 4-Aminophenylacetic acid  
 1199-59-3, 4-Dimethylamino-2-methylbenzaldehyde 1204-86-0,  
 4-Morpholinobenzaldehyde 1424-66-4, 2-Chloro-4-dimethylaminobenzaldehyde  
 1450-75-5 1455-77-2, 3,5-Diamino-1,2,4-triazole 1466-88-2 1470-79-7,  
 2,4,4'-Trihydroxybenzophenone 1483-97-2, 3,6-Diacetyl-9-ethylcarbazole

1484-05-5, 3-Acetyl-9-methylcarbazole 1484-05-5D, salt 1493-13-6D,  
 Trifluoromethane sulfonic acid, salt 1504-76-3 1571-72-8,  
 3-Amino-4-hydroxybenzoic acid 1681-60-3, Pontacyl violet 4BSN 1734-79-8  
 1820-80-0, 3-Aminopyrazole 1874-22-2  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes composed of primary amino group-containing  
 chromophores and reactive carbonyl compds.)  
 IT 1971-81-9, 4-Dimethylamino-1-naphthaldehyde 2058-74-4, 1-Methylisatin  
 2089-78-3 2103-57-3, 2,3,4-Trimethoxybenzaldehyde 2118-39-0, C.I.  
 27755 2124-31-4 2144-08-3, 2,3,4-Trihydroxybenzaldehyde 2233-18-3,  
 4-Hydroxy-3,5-dimethylbenzaldehyde 2291-40-9 2374-03-0,  
 4-Amino-3-hydroxybenzoic acid 2390-56-9 2478-38-8 2539-53-9,  
 4-Ethoxy-3-hydroxybenzaldehyde 2654-52-6, 2,3-Dimethylbenzothiazolium-p-  
 toluenesulfonate 2688-48-4 2688-49-5 2785-06-0, 2,3-  
 Dimethylbenzothiazolium iodide 2835-77-0, 2-Aminobenzophenone  
 2835-95-2, 2-Methyl-5-aminophenol 2835-98-5 2835-99-6,  
 4-Amino-3-methylphenol 2871-01-4 2872-48-2, 1,4-Diamino-2-  
 methoxyanthraquinone 2887-61-8, 2-Hydroxybutyrophene 3011-34-5,  
 4-Hydroxy-3-nitrobenzaldehyde 3119-93-5, 3-Ethyl-2-methylbenzothiazolium  
 iodide 3131-52-0, 5,6-Dihydroxyindole 3158-63-2, 1,3-  
 Dimethylthiobarbituric acid 3160-35-8 3160-37-0 3167-49-5,  
 6-Aminonicotinic acid 3204-61-3, 1,2,4,5-Tetraaminobenzene 3215-37-0,  
 3-Acetylcarbazole 3240-72-0, 2,4-Dihydroxy-5,6-diaminopyrimidine  
 3244-88-0, Benzenesulfonic acid, 2-amino-5-[(4-amino-3-sulfophenyl)(4-  
 imino-3-sulfo-2,5-cyclohexadien-1-ylidene)methyl]-3-methyl-, disodium salt  
 3248-91-7, C.I. 42520 3342-78-7, 2-Aminophenylacetic acid 3392-97-0,  
 2,6-Dimethoxybenzaldehyde 3433-54-3, 6-Nitroisatin 3565-42-2,  
 Quinisatin 3567-66-6, C.I. 17200 4181-05-9, 4-  
 Diphenylaminobenzaldehyde 4318-76-7, 2,5-Diaminopyridine 4331-29-7,  
 7-Aminobenzimidazole 4335-90-4 4363-93-3, 4-Quinolinecarboxaldehyde  
 4368-56-3, C.I. 62045 4438-16-8, C.I. 11320 4444-26-2,  
 Hexaaminobenzene 4460-86-0, 2,4,5-Trimethoxybenzaldehyde 4569-88-4,  
 Janusblue 4928-43-2, 2-Dimethylamino-5-aminopyridine 4940-39-0,  
 Chromone-2-carboxylic acid 5007-67-0, 3,3',4,4'-Tetraaminobenzophenone  
 5099-39-8, 2-[2-(Diethylamino)ethylamino]-5-nitroaniline 5131-58-8  
 5153-57-1 5192-03-0, 5-Aminoindole 5192-04-1, 7-Aminoindole  
 5192-23-4, 4-Aminoindole 5217-47-0, 1,3-Diethylthiobarbituric acid  
 5260-37-7, 3-Ethyl-2-methylbenzoxazolium iodide 5274-70-4,  
 2-Hydroxy-3-nitrobenzaldehyde 5307-02-8 5307-14-2,  
 1,4-Diamino-2-nitrobenzene 5318-27-4, 6-Aminoindole 5345-47-1,  
 2-Aminonicotinic acid 5392-12-1, 2-Methoxy-1-naphthaldehyde 5416-80-8  
 5418-63-3, 1,2,3,3-Tetramethyl-3H-indolium iodide 5432-53-1 5434-20-8,  
 3-Aminophthalic acid 5466-88-6, 2H-1,4-Benzoxazin-3(4H)-one 5551-11-1,  
 4-Chloro-2-nitrobenzaldehyde 5556-84-3, 2,3,5-Trimethoxybenzaldehyde  
 5556-86-5, 2,3,6-Trimethoxybenzaldehyde 5650-41-9, 3-  
 Hydroxypropiophenone 5679-13-0, 2-Benzylidenecyclopentanone 5682-83-7,  
 2-Benzylidenecyclohexanone 5718-83-2, Rhodanine-3-acetic acid  
 5858-51-5, C.I. 14805 5910-23-6 5930-28-9, 2,6-Dichloro-4-aminophenol  
 5959-52-4, 3-Amino-2-naphthoic acid 6051-53-2 6203-18-5,  
 4-Dimethylaminozimaldehyde 6271-44-9, 1,2,3-Trimethylquinoxalinium  
 iodide 6322-56-1, 4-Hydroxy-3-nitroacetophenone 6327-79-3 6358-09-4,  
 2-Amino-6-chloro-4-nitrophenol 6361-22-4, 2-Chloro-6-nitrobenzaldehyde  
 6399-72-0, 6-Amino-7-hydroxynaphthalene-2-sulfonic acid 6470-98-0,  
 Mordant Yellow 12 6628-04-2, 4-Aminoquinaldine 6628-86-0,  
 5-Chloro-2-nitrobenzaldehyde 6633-46-1 6635-20-7, 5-Nitrovanillin  
 6781-42-6, 1,3-Diacetylbenzene 6967-12-0, 6-Aminoindazole 7218-02-2  
 7311-34-4, 3,5-Dimethoxybenzaldehyde 7313-70-4, 5-Sulfo-isatin  
 7459-75-8, 3,6-Diaminoacridine-Hydrochloride 7570-45-8 7575-35-1,  
 N,N-Bis(2-hydroxyethyl)-p-phenylenediamine 7722-84-1, Hydrogen peroxide,

biological studies 7749-47-5, 2-Amino-4-methoxy-6-methylpyrimidine  
 7770-45-8, 4-Hydroxy-1-naphthaldehyde 8005-78-5, C.I. 21010  
 10031-82-0, 4-Ethoxybenzaldehyde 10040-98-9, 4-(1-  
 Imidazolyl)benzaldehyde 10041-06-2 10111-08-7, 1H-Imidazole-2-  
 carboxaldehyde 10127-36-3, C.I. 51010 10173-66-7, 1-Amino-4-nitro-2-(2-  
 nitrobenzylideneamino)benzene 10182-90-8D, 2-Formyl-1-methylpyridinium,  
 salt 10338-57-5, 4-Piperidinobenzaldehyde 10342-85-5 10472-94-3  
 12217-43-5, Basic Blue 47 13066-97-2 13441-40-2D, salt 13505-39-0,  
 3-Hydroxybutyrophenone 13669-42-6, 3-Quinoliniccarboxaldehyde  
 13754-19-3, 4,5-Diaminopyrimidine 14268-66-7, 3,4-Methylenedioxyaniline  
 14338-36-4, 3-Aminophenylacetic acid 14501-66-7 14501-66-7D, salt  
 14575-62-3 14933-76-7, 3-Ethyl-2-methylbenzothiazolium-p-  
 toluenesulfonate 15174-69-3, 4-Hydroxy-3-methylbenzaldehyde  
 15201-05-5D, salt 15971-29-6, 4-Methoxy-1-naphthaldehyde 16082-33-0,  
 3,5-Diaminopyrazole 16214-27-0, 1H-Indene-1,2(3H)-dione 16588-34-4,  
 4-Chloro-3-nitrobenzaldehyde 16634-88-1, 5-Bromo-3-nitrosalicylaldehyde  
 16859-86-2, 1,4-Dimethylquinolinium iodide 16867-03-1,  
 2-Amino-3-hydroxypyridine 16872-11-0D, Tetrafluoroboric acid, salt  
 17028-61-4, 2-Hydroxy-3-methoxy-5-nitrobenzaldehyde 17422-74-1  
 17630-76-1, 5-Chloroisatin 17672-22-9 17754-90-4, 4-Diethylamino-2-  
 hydroxybenzaldehyde 17792-58-4 18073-18-2 18073-18-2D, salt  
 18278-34-7, 4-Hydroxy-2-methoxybenzaldehyde 18899-16-6D, salt  
 19005-93-7, 1H-Indole-2-carboxaldehyde 19012-02-3 19012-03-4  
 19335-11-6, 5-Aminoindazole 20048-92-4, 1-Ethyl-2-methylquinolinium-p-  
 toluenesulfonate 20103-09-7, 2,5-Dichloro-p-phenylenediamine  
 20357-25-9, 4,5-Dimethoxy-2-nitrobenzaldehyde 20721-50-0, Disperse Black  
 9 21240-56-2 22080-96-2, 4-Hydroxy-2,6-dimethoxybenzaldehyde  
 22411-59-2 22715-34-0, 2-Hydroxy-4,5,6-triaminopyrimidine 22924-15-8,  
 3-Ethoxybenzaldehyde 22948-94-3 23244-87-3, 2,4,5-Triaminopyridine  
 24290-36-6, Sodium glutaconaldehyde 24677-78-9, 2,3-  
 Dihydroxybenzaldehyde 24905-87-1 25128-32-9, 5-Carboxyisatin  
 26153-38-8, 3,5-Dihydroxybenzaldehyde 26216-16-0 26246-29-7  
 26381-41-9, Basic Brown 16 27394-81-6, 5-(4-Methoxyphenyl)penta-2,4-  
 dienal 27841-29-8 28020-38-4, 2,3-Diamino-6-methoxypyridine  
 28096-15-3 28746-58-9 29539-03-5, 5,6-Dihydroxyindoline 29705-39-3  
 31431-19-3 31680-07-6, 4-Methyl-3-nitrobenzaldehyde 31835-64-0,  
 3-Amino-3'-nitrobiphenyl 32479-73-5, 1,3-Diethylbarbituric acid  
 33709-29-4 33985-71-6 35094-87-2, 2,4,5-Trihydroxybenzaldehyde  
 36075-79-3D, salt 37705-82-1, 2,4-Diaminobenzonitrile 39755-03-8,  
 4-Hydroxybutyrophenone 39755-95-8, 5-Methoxyisatin 39910-98-0  
 41438-18-0, 4-Hydroxy-2-methylbenzaldehyde 41602-56-6,  
 4-Dimethylamino-2-hydroxybenzaldehyde 41626-14-6, 1,4-  
 Dimethylquinolinium-p-toluene sulfonate 42426-35-7 42454-06-8,  
 5-Hydroxy-2-nitrobenzaldehyde 42758-54-3, 4-Nitro-1-naphthaldehyde  
 42952-26-1, 1-Methylquinaldinium-p-toluene sulfonate 42952-29-4  
 43057-77-8, 4-Ethoxy-2-hydroxybenzaldehyde 45791-64-8D,  
 4-Acetyl-1-methylpyridinium, salt 46791-37-1D, salt 46881-39-4D, salt  
 50379-28-7 50610-28-1, 2-Chloro-5-nitro-N-hydroxyethyl-1,4-phenylene  
 diamine 50899-59-7, 1-Hydroxymethylisatin 51387-92-9 51980-54-2,  
 4-Pyrrolidinobenzaldehyde 52924-20-6, 4-Aminosalicylaldehyde  
 52943-88-1, 1-Phenyl-3-methyl-4,5-diaminopyrazole 53055-05-3,  
 3-Methoxy-2-nitrobenzaldehyde 54424-26-9 54424-27-0 54424-29-2  
 54628-24-9D, salt 55047-63-7 55302-96-0, 2-Methyl-5-(2-  
 hydroxyethylamino)phenol 55949-38-7, Hydroxypyrimidine 55952-56-2,  
 1-Ethyl-4-methylquinolinium-p-toluene sulfonate 56932-44-6 58028-76-5,  
 2-Morpholinobenzaldehyde 58380-40-8, 4-Hydroxy-2,3-dimethylbenzaldehyde  
 58480-17-4 60126-36-5, 3-Ethyl-2-methylbenzoxazolium-p-toluene sulfonate  
**61078-47-5 61078-48-6 61224-35-9, 1,2,3,3-Tetramethyl-**  
 3H-indolium-p-toluene sulfonate 61693-42-3, 3-Amino-2,4-dichlorophenol

61901-61-9, Basic Orange 31 62378-72-7 62496-02-0,  
 2-Methylamino-4,5,6-triaminopyrimidine 62649-65-4 63053-27-0  
 63149-33-7 63969-46-0, Bis(5-amino-2-hydroxyphenyl)methane 64168-39-4,  
 2,3,6-Trihydroxybenzaldehyde  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes composed of primary amino group-containing  
 chromophores and reactive carbonyl compds.)  
 IT 64993-07-3, 5-Amino-6-nitrobenzo-1,3-dioxole 65192-34-9 65192-36-1  
 65443-86-9 67608-58-6, 4-Amino-2-hydroxybenzonitrile 67608-59-7  
 67805-13-4 68123-13-7, C.I. 56059 68651-46-7, Indigo dye 69471-05-2,  
 4-Hydroxy-2,3-dimethoxybenzaldehyde 69825-83-8, 6-Nitro-2,5-  
 diaminopyridine 70484-29-6 70547-87-4, 4-Hydroxy-2,6-  
 dimethylbenzaldehyde 70643-19-5, 2,4-Diaminophenoxyethanol 74186-01-9,  
 2,3,5-Trihydroxybenzaldehyde 75965-68-3 75965-71-8 75965-84-3  
 77484-77-6, 3-Amino-6-methylamino-2-nitropyridine 79352-72-0,  
 2-Aminomethyl-4-aminophenol 79459-15-7, 3,5-Diethoxy-4-  
 hydroxybenzaldehyde 80749-72-0, 4-Hydroxy-2,5-dimethoxybenzaldehyde  
 81892-72-0, 1,3-Bis(2,4-diaminophenoxy)propane 82576-75-8 83072-44-0,  
 2-Ethoxy-4-hydroxybenzaldehyde 83073-86-3, 5-(4-  
 Dimethylaminophenyl)penta-2,4-dienal 83763-47-7, 2-Amino-4-(2-  
 hydroxyethylamino)anisole 84540-47-6, 2,6-Dihydroxy-3,4-dimethylpyridine  
 84540-50-1, 3-Amino-2-chloro-6-methylphenol 84562-48-1,  
 4-Dimethylamino-2-methoxybenzaldehyde 85231-15-8, 4-Hydroxy-2,5-  
 dimethylbenzaldehyde 85561-52-0, 1-Phenyl-4,5-diaminopyrazole  
 85679-78-3, 2,6-Dimethoxy-3,5-diaminopyridine 85926-99-4,  
 4-Hydroxyindoline 90134-10-4, 4-Dibutylaminobenzaldehyde 90817-34-8,  
 2-Methylamino-3-amino-6-methoxypyridine 91902-53-3 93841-24-8,  
 2-(2,5-Diaminophenyl)ethanol 95576-89-9 96516-29-9,  
 2-Fluoro-3-nitrobenzaldehyde 100418-33-5 101582-21-2 104202-54-2  
 104333-09-7, 2-Hydroxymethyl-4-aminophenol 104903-49-3 110102-86-8,  
 2-Methyl-5-amino-4-chlorophenol 110952-46-0 110952-48-2 114260-09-2  
 114402-54-9, 1,3-Bis(4-aminophenylamino)propane 115423-85-3  
 115423-86-4, 1,3-Diamino-2,4-dimethoxybenzene 117907-43-4  
 122438-74-8D, salt 122455-85-0, 5-Amino-4-fluoro-2-methylphenol  
 126335-41-9 126335-43-1, 2-(2,5-Diaminophenoxy)ethanol 128729-30-6,  
 1,3-Bis[N-(4-aminophenyl)-2-hydroxyethylamino]-2-propanol 129697-50-3  
 130133-55-0 130582-56-8, 1,3-Bis(4-aminophenylamino)-2-propanol  
 137290-78-9, 5-Amino-4-methoxy-2-methylphenol 137290-86-9,  
 5-(2-Hydroxyethylamino)-4-methoxy-2-methylphenol 141614-04-2  
 141614-05-3 141922-20-5, 2,4-Diamino-5-fluorotoluene 144284-89-9  
 145092-00-8, 3-Amino-5-hydroxypyrazole 146658-65-3, 5-(3-  
 Hydroxypropylamino)-2-methylphenol 147025-37-4D, salt 149330-25-6  
 155601-17-5, 1-(2-Hydroxyethyl)-4,5-diaminopyrazole 159661-40-2  
 159661-41-3 159661-42-4, 2,5-Dihydroxy-4-morpholinoaniline 159661-43-5  
 159661-45-7, 1,8-Bis(2,5-diaminophenoxy)-3,6-dioxaoctane 159759-49-6  
 161329-44-8 178822-03-2 187030-52-0, 5-(4-Diethylaminophenyl)penta-2,4-  
 dienal 211872-02-5 215517-65-0 215517-66-1 215517-68-3  
 220118-56-9, 1,2,3,3-Tetramethyl-3H-indolium-methane sulfonate  
 223397-50-0D, salt 223397-66-8D, salt 223397-83-9D, salt  
 223397-92-0D, salt 223398-35-4D, salt 223398-44-5D, salt  
 223585-63-5, Brilliant Heliotrope 2R 260980-91-4 260980-92-5  
 260980-93-6 260980-94-7 260980-95-8 260980-96-9 260980-97-0  
 260980-98-1 260980-99-2 260981-00-8 260981-02-0,  
 N-(2-Methoxyethyl)-p-phenylenediamine 260981-03-1, 2,3-Dichloro-p-  
 phenylenediamine 278807-62-8D, salt 278807-63-9D, salt 278807-64-0D,  
 salt 278807-65-1D, salt 278807-66-2D, salt 278807-67-3D, salt  
 278807-68-4D, salt 278807-69-5D, salt 278807-70-8D, salt  
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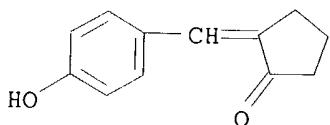
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**325853-09-6** 341989-73-9, 2,6-Diethoxy-4-hydroxybenzaldehyde  
 346593-13-3, 3-Amino-4-nitroacenaphthene 375856-52-3 503853-81-4  
 503853-94-9 503854-79-3D, salt 503854-80-6D, salt 503854-82-8D, salt  
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 669057-68-5 669057-69-6 669057-71-0 669057-72-1 669057-74-3  
 669057-80-1 669057-81-2 669057-82-3 669057-86-7 669057-91-4  
 669057-93-6 669057-94-7 669057-96-9 669058-10-0D, salt  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes composed of primary amino group-containing  
 chromophores and reactive carbonyl compds.)

IT **61078-47-5 61078-48-6 325853-04-1****325853-09-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes composed of primary amino group-containing  
 chromophores and reactive carbonyl compds.)

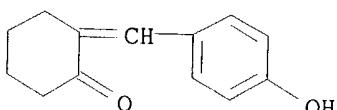
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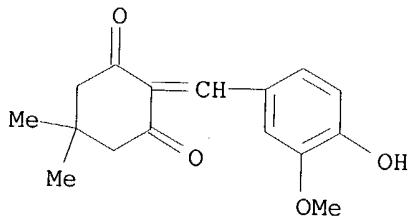
RN 61078-48-6 HCPLUS

CN Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)

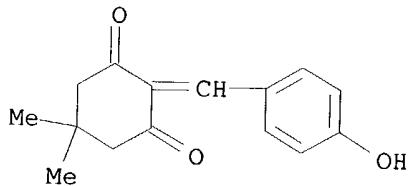


RN 325853-04-1 HCPLUS

CN 1,3-Cyclohexanedione, 2-[(4-hydroxy-3-methoxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



RN 325853-09-6 HCAPLUS  
 CN 1,3-Cyclohexanedione, 2-[ (4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI)  
 (CA INDEX NAME)



L76 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:525964 HCAPLUS  
 DN 141:76352  
 TI Hair dying tablets containing compounds with reactive carbonyl group  
 IN Moeller, Hinrich; Gross, Wibke; Hoeffkes, Horst; Oberkobusch, Doris;  
 Schulze Zur Wiesche, Erik  
 PA Henkel Kgaa, Germany  
 SO Ger. Offen., 56 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
DE 10260880	A1	20040701	DE 2002-10260880	20021223	
WO 2004058202	A1	20040715	WO 2003-EP14202	20031213	
W: CN, JP, RU, US RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR					
PRAI DE 2002-10260880	A	20021223			
OS MARPAT 141:76352					
AB	The invention concerns oxydative hair dye compns. containing compds. with reactive carbonyl group and that are formulated as tablets; developer and coupler can be formulated as two tablets or as one tablet with developer layer, coupler layer and a dividing layer between the two. Addnl. components are selected from the group of CH-acids, primary and secondary amines, arylamines, hydroxy compds., amino acids and peptides, and dissoln. enhancers. Thus a tablet base composition contained (g): arginine 0.50; Avicel PH102 1.10; magnesium stearate 0.03; Merquat 280 dry 0.05; Aerosil 200 0.01; Optigel SH 0.20; Jaguar HP 120 0.25; Amaze 0.08; Luviskol K30 0.07; Texapon K1296 PLV 0.03. To prepare hair dye tablets 2.32 g of the base composition was mixed for the first tablet with 0.30 g Starlac, 1.38 g 4-formyl-1-methylquinolinium-p-toluene sulfate; for the second tablet with 0.73 g Starlac and 0.95 g 2,4,5,6-tetraaminopyrimidine sulfate.				
IC	ICM A61K007-13 ICS D06P003-10; D06P003-14; D06P003-30				
CC	62-3 (Essential Oils and Cosmetics)				
ST	oxidative hair dye tablet reactive carbonyl group				
IT	Acids, biological studies RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (CH-acids; hair dying tablets containing compds. with reactive carbonyl group)				
IT	Amines, biological studies				

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(aromatic; hair dying tablets containing compds. with reactive carbonyl group)

IT Dyes  
(direct, cationic; hair dying tablets containing compds. with reactive carbonyl group)

IT Hair preparations  
(dyes, oxidative; hair dying tablets containing compds. with reactive carbonyl group)

IT Hair preparations  
(dyes; hair dying tablets containing compds. with reactive carbonyl group)

IT Hair preparations  
(emulsions; hair dying tablets containing compds. with reactive carbonyl group)

IT Dissolution  
(enhancers; hair dying tablets containing compds. with reactive carbonyl group)

IT Hair preparations  
(gels; hair dying tablets containing compds. with reactive carbonyl group)

IT Tablets  
(hair dyes; hair dying tablets containing compds. with reactive carbonyl group)

IT Alkalinity

Bitterness

Carbonyl group

Oxidizing agents

Pearlescent pigments

Thickening agents  
(hair dying tablets containing compds. with reactive carbonyl group)

IT Amino acids, biological studies

Bromides, biological studies

Carbonyl compounds (organic), biological studies

Chlorides, biological studies

Hydroxy compounds

Iodides, biological studies

Peptides, biological studies

Perchlorates

Polyoxyalkylenes, biological studies

Sulfates, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dying tablets containing compds. with reactive carbonyl group)

IT Sulfates, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hydrogen; hair dying tablets containing compds. with reactive carbonyl group)

IT Viscosity  
(of dissolved tablets; hair dying tablets containing compds. with reactive carbonyl group)

IT Hardness (mechanical)  
(of tablets; hair dying tablets containing compds. with reactive carbonyl group)

IT Emulsions  
(oil-in-water; hair dying tablets containing compds. with reactive carbonyl group)

IT Enzymes, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(oxidizing; hair dying tablets containing compds. with reactive carbonyl group)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (primary; hair dying tablets containing compds. with reactive carbonyl group)

IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (secondary; hair dying tablets containing compds. with reactive carbonyl group)

IT Emulsions  
 (water-in-oil; hair dying tablets containing compds. with reactive carbonyl group)

IT 59-48-3, Oxindol 60-80-0 66-72-8, Pyridoxal 67-52-7, Barbituric acid  
 70-70-2 74-79-3, L-Arginine, biological studies 75-75-2,  
 Methanesulfonic acid 77-78-1D, Methylsulfate, salts 83-33-0,  
 1-Indanone 84-83-3 86-51-1, 2,3-Dimethoxybenzaldehyde 89-84-9  
 90-02-8, Salicylaldehyd e, biological studies 90-44-8, Anthrone  
 91-56-5, Isatin 93-02-7, 2,5-Dimethoxybenzaldehyde 93-55-0,  
 Propiophenone 95-01-2, 2,4-Dihydroxybenzaldehyde 97-51-8,  
 2-Hydroxy-5-nitrobenzaldehyde 98-01-1, Furfural, biological studies  
 98-86-2, Acetophenone, biological studies 99-61-6, 3-Nitrobenzaldehyde  
 99-92-3 99-93-4, 4-Hydroxyacetophenone 100-10-7, 4-N,N-  
 Dimethylaminobenzaldehyde 100-83-4, 3-Hydroxybenzaldehyde 104-15-4D,  
 salts 117-39-5, Quercetin 118-12-7 118-93-4 120-14-9,  
 3,4-Dimethoxybenzaldehyde 120-21-8, 4-Diethylaminobenzaldehyde  
 120-46-7, 2-Benzoylacetophenone 120-57-0, Piperonal 121-32-4,  
 3-Ethoxy-4-hydroxybenzaldehyde 121-33-5, Vanillin 121-71-1 122-57-6  
 123-08-0, 4-Hydroxybenzaldehyde 123-11-5, 4-Methoxybenzaldehyde,  
 biological studies 126-81-8, 5,5-Dimethylcyclohexane-1,3-dione  
 131-56-6, 2,4-Dihydroxybenzophenone 134-96-3, 4-Hydroxy-3,5-  
 dimethoxybenzaldehyde 135-02-4, 2-Methoxybenzaldehyde 139-85-5,  
 3,4-Dihydroxybenzaldehyde 141-84-4 326-91-0, 2-Thenoyltrifluoroacetone  
 350-03-8, 3-Acetylpyridine 387-46-2, 2,6-Dihydroxybenzaldehyde  
 458-36-6, Coniferylaldehyde 480-66-0 486-25-9, 9-Fluorenone  
 487-70-7, 2,4,6-Trihydroxybenzaldehyde 487-89-8, 3-Indolealdehyde  
 490-78-8 491-38-3, Chromone 491-67-8, 5,6,7-Trihydroxyflavone  
 498-02-2 500-22-1, 3-Pyridinaldehyde 504-17-6, Thiobarbituric acid  
 520-36-5, 4',5,7-Trihydroxyflavone 525-82-6, Flavone 528-21-2  
 528-75-6, 2,4-Dinitrobenzaldehyde 548-83-4, 3,5,7-Trihydroxyflavone  
 552-89-6, 2-Nitrobenzaldehyde 553-86-6, Cumaranone 555-16-8,  
 4-Nitrobenzaldehyde, biological studies 574-19-6 577-56-0 577-85-5,  
 3-Hydroxyflavone 579-72-6, 2-Dimethylaminobenzaldehyde 586-89-0  
 591-31-1, 3-Methoxybenzaldehyde 605-59-4, 1-Ethyl-4-methylquinolinium  
 iodide 606-23-5, Indan-1,3-dione 606-31-5, 2,6-Dinitrobenzaldehyde  
 606-55-3, 1-Ethyl-2-methylquinolinium iodide 608-08-2, 3-Indoxylacetate  
 610-99-1 611-09-6, 5-Nitroisatin 611-99-4, 4,4'-Dihydroxybenzophenone  
 613-45-6, 2,4-Dimethoxybenzaldehyde 613-69-4, 2-Ethoxybenzaldehyde  
 614-16-4, Benzoylacetonitrile 621-59-0, 3-Hydroxy-4-methoxybenzaldehyde  
 673-22-3, 2-Hydroxy-4-methoxybenzaldehyde 698-63-5, 5-Nitrofurfural,  
 biological studies 699-83-2 703-80-0, 3-Acetylindole 704-13-2,  
 3-Hydroxy-4-nitrobenzaldehyde 708-06-5, 2-Hydroxy-1-naphthaldehyde  
 711-79-5 712-97-0, 6-Nitropiperonal 779-90-8, 1,3,5-Triacetylbenzene  
 821-42-1, 2-Pentenedial 830-74-0, 1-Allylisatin 830-79-5,  
 2,4,6-Trimethoxybenzaldehyde 832-58-6, 2,4,6-Trimethoxyacetophenone  
 872-85-5, 4-Pyridinecarboxaldehyde 876-87-9, 1,2-Dimethylquinolinium  
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 4-Methoxybenzylideneacetone 1009-61-6, 1,4-Diacetylbenzene 1080-12-2,  
 4-Hydroxy-3-methoxybenzylideneacetone 1080-74-6, 3-Dicyanomethyleneindan-  
 1-one 1121-60-4, 2-Pyridinaldehyde 1122-54-9, 4-Acetylpyridine  
 1122-62-9, 2-Acetylpyridine 1136-86-3 1137-42-4, 4-Hydroxybenzophenone  
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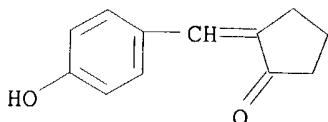
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 dimethylaminobenzaldehyde 1450-75-5 1466-88-2 1470-79-7,  
 2,4,4'-Trihydroxybenzophenone 1483-97-2, 3,6-Diacetyl-9-ethylcarbazole  
 1484-05-5, 3-Acetyl-9-methylcarbazole 1504-76-3 1734-79-8 1874-22-2,  
 3-(5-Nitro-2-furyl)acrolein 1971-81-9, 4-Dimethylamino-1-naphthaldehyde  
 2058-74-4, 1-Methylisatin 2089-78-3 2103-57-3, 2,3,4-  
 Trimethoxybenzaldehyde 2124-31-4 2144-08-3, 2,3,4-  
 Trihydroxybenzaldehyde 2233-18-3, 4-Hydroxy-3,5-dimethylbenzaldehyde  
 2291-40-9 2478-38-8 2539-53-9, 4-Ethoxy-3-hydroxybenzaldehyde  
 2654-52-6, 2,3-Dimethylbenzothiazolium-p-toluenesulfonate 2688-48-4  
 2688-49-5 2785-06-0, 2,3-Dimethylbenzothiazolium iodide 2835-77-0,  
 2-Aminobenzophenone 2835-99-6, 3-Methyl-4-aminophenol 2887-61-8,  
 2-Hydroxybutyrophenone 3011-34-5, 4-Hydroxy-3-nitrobenzaldehyde  
 3119-93-5, 3-Ethyl-2-methylbenzothiazolium iodide 3158-63-2,  
 1,3-Dimethylthiobarbituric acid 3160-35-8, 4-Hydroxybenzylideneacetone  
 3160-37-0 3198-32-1D, Benzenesulfonate, salts 3215-37-0,  
 3-Acetylcarbazole 3392-97-0, 2,6-Dimethoxybenzaldehyde 3433-54-3,  
 6-Nitroisatin 3565-42-2, Quinisatine 4290-82-8 4335-90-4  
 4363-93-3, 4-Quinolinecarboxaldehyde 4460-86-0, 2,4,5-  
 Trimethoxybenzaldehyde 4940-39-0, Chromone-2-carboxylic acid  
 5217-47-0, 1,3-Diethylthiobarbituric acid 5260-37-7,  
 3-Ethyl-2-methylbenzoxazolium iodide 5274-70-4, 2-Hydroxy-3-  
 nitrobenzaldehyde 5392-12-1, 2-Methoxy-1-naphthaldehyde 5416-80-8  
 5418-63-3, 1,2,3,3-Tetramethyl-3H-indolium iodide 5432-53-1,  
 4-Dimethylaminobenzylideneacetone 5466-88-6, 2H-1,4-Benzoxazin-3(4H)-one  
 5551-11-1, 4-Chloro-2-nitrobenzaldehyde 5556-84-3, 2,3,5-  
 Trimethoxybenzaldehyde 5556-86-5, 2,3,6-Trimethoxybenzaldehyde  
 5650-41-9, 3-Hydroxypropiophenone 5679-13-0, 2-Benzylidenecyclopentanone  
 5682-83-7, 2-Benzylidenecyclohexanone 5718-83-2, Rhodanine-3-acetic acid  
 6051-53-2, 2-Hydroxybenzylideneacetone 6203-18-5, 4-Dime-  
 thylaminozimtaldehyde 6271-44-9, 1,2,3-Trimethylquinoxalinium iodide  
 6322-56-1, 4-Hydroxy-3-nitroacetophenone 6361-22-4, 2-Chloro-6-  
 nitrobenzaldehyde 6374-92-1, 5,7-Dichloroisatin 6532-16-7,  
 N-Morpholinomethylisatin 6628-86-0, 5-Chloro-2-nitrobenzaldehyde  
 6633-46-1 6635-20-7, 5-Nitrovanillin 6781-42-6, 1,3-Diacetylbenzene  
 7216-42-4 7311-34-4, 3,5-Dimethoxybenzaldehyde 7313-70-4,  
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 7722-84-1, Hydrogen peroxide, biological studies 7770-45-8,  
 4-Hydroxy-1-naphthaldehyde 10031-82-0, 4-Ethoxybenzaldehyde  
 10040-98-9, 4-(1-Imidazolyl)benzaldehyde 10041-06-2 10111-08-7,  
 1H-Imidazole-2-carboxaldehyde 10182-90-8D, 2-Formyl-1-methylpyridinium,  
 salts 10338-57-5, 4-Piperidinobenzaldehyde 10342-85-5 12270-25-6,  
 Basic red 51 13129-69-6, N-Piperidinomethylisatin 13441-40-2D, salts  
 13441-42-4D, salts 13505-39-0, 3-Hydroxybutyrophenone 13669-42-6,  
 3-Quinolinecarboxaldehyde 14501-66-7 14874-70-5D, Tetrafluoroborate,  
 salts 14933-76-7, 3-Ethyl-2-methylbenzothiazolium-p-toluenesulfonate  
 15032-10-7 15174-69-3, 4-Hydroxy-3-methylbenzaldehyde 15971-29-6,  
 4-Methoxy-1-naphthaldehyde 16214-27-0, Indan-1,2-dione 16588-34-4,  
 4-Chloro-3-nitrobenzaldehyde 16634-88-1, 5-Bromo-3-nitrosalicylaldehyde  
 16859-86-2, 1,4-Dimethylquinolinium iodide 16919-18-9D,  
 Hexafluorophosphate, salts 17028-61-4, 2-Hydroxy-3-methoxy-5-  
 nitrobenzaldehyde 17422-74-1 17630-76-1, 5-Chloroisatin 17754-90-4,  
 4-Diethylamino-2-hydroxybenzaldehyde 17792-58-4 18073-18-2  
 18278-34-7, 4-Hydroxy-2-methoxybenzaldehyde 18899-16-6D, salts  
 19005-93-7, 1H-Indole-2-carboxaldehyde 19012-02-3, 1-Methyl-3-  
 acetylindole 19012-03-4 19143-35-2, N-Methylpyridoxal 20048-92-4,  
 1-Ethyl-2-methylquinolinium-p-toluenesulfonate 20357-25-9,

4,5-Dimethoxy-2-nitrobenzaldehyde 21240-56-2 22080-96-2,  
 4-Hydroxy-2,6-dimethoxybenzaldehyde 22411-59-2 22924-15-8,  
 3-Ethoxybenzaldehyde 22948-94-3 24677-78-9, 2,3-Dihydroxybenzaldehyde  
 25128-32-9 25322-68-3, Polyethylene glycol 26153-38-8,  
 3,5-Dihydroxybenzaldehyde  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dying tablets containing compds. with reactive carbonyl group)  
 IT 27311-52-0 27394-81-6, 5-(4-Methoxyphenyl)penta-2,4-dienal 28746-58-9  
 31541-32-9 31680-07-6, 4-Methyl-3-nitrobenzaldehyde 32479-73-5,  
 1,3-Diethylbarbituric acid 33709-29-4 33985-71-6 35094-87-2,  
 2,4,5-Trihydroxybenzaldehyde 36075-79-3D, salts 36518-76-0  
 37181-39-8D, Trifluoromethanesulfonate, salts 39421-75-5, Jaguar HP120  
 39755-03-8, 4-Hydroxybutyrophone 39755-95-8, 5-Methoxyisatin  
 39910-98-0 41438-18-0, 4-Hydroxy-2-methylbenzaldehyde 41602-56-6,  
 4-Dimethylamino-2-hydroxybenzaldehyde 41704-95-4, Isatin-4-carboxylic  
 acid 42426-35-7 42454-06-8, 5-Hydroxy-2-nitrobenzaldehyde  
 42758-54-3, 4-Nitro-1-naphthaldehyde 43057-77-8, 4-Ethoxy-2-  
 hydroxybenzaldehyde 45791-64-8D, 4-Acetyl-1-methylpyridinium, salts  
 46791-37-1D, salts 46881-39-4D, salts 49647-58-7, 2,4,5,6-  
 Tetraaminopyrimidine sulfate 50379-28-7 50899-59-7 51107-64-3D,  
 salts 51980-54-2, 4-Pyrrolidinobenzaldehyde 53003-19-3 53003-20-6  
 53019-76-4 53055-05-3, 3-Methoxy-2-nitrobenzaldehyde 54424-26-9  
 54424-27-0 54424-29-2 54628-24-9D, salts 55047-63-7 55952-56-2,  
 1-Ethyl-4-methylquinolinium-p-toluenesulfonate 58028-76-5,  
 2-Morpholinobenzaldehyde 58380-40-8, 4-Hydroxy-2,3-dimethylbenzaldehyde  
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**61078-47-5**, 2-(4-Hydroxybenzylidene)cyclopentanone  
**61078-48-6**, 2-(4-Hydroxybenzylidene)cyclohexanone 62378-72-7  
 63053-27-0 64168-39-4, 2,3,6-Trihydroxybenzaldehyde 65192-34-9  
 65192-36-1 65443-86-9 67805-13-4 68549-78-0 69471-05-2,  
 4-Hydroxy-2,3-dimethoxybenzaldehyde 69564-74-5 70484-29-6  
 70547-87-4, 4-Hydroxy-2,6-dimethylbenzaldehyde 74186-01-9,  
 2,3,5-Trihydroxybenzaldehyde 74380-12-4 75965-68-3 75965-71-8  
 75965-84-3 79459-15-7, 3,5-Diethoxy-4-hydroxybenzaldehyde 80749-72-0,  
 4-Hydroxy-2,5-dimethoxybenzaldehyde 80789-74-8, 5-Isatinsulfonic acid  
 sodium salt 83072-44-0, 2-Ethoxy-4-hydroxybenzaldehyde 83073-86-3,  
 5-(4-Dimethylaminophenyl)penta-2,4-dienal 84562-48-1,  
 4-Dimethylamino-2-methoxybenzaldehyde 84677-32-7 85231-15-8,  
 4-Hydroxy-2,5-dimethylbenzaldehyde 90134-10-4, 4-  
 Dibutylaminobenzaldehyde 91902-53-3 96516-29-9, 2-Fluoro-3-  
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 4-Benzoyl-1-methylpyridinium, salts 101582-21-2 104202-54-2  
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 215377-39-2 215377-40-5 215377-41-6 215377-42-7 215377-43-8  
 215377-45-0 215377-46-1 215377-47-2 215377-48-3 215377-49-4  
 215377-50-7 215517-65-0 215517-66-1 215517-68-3 220118-52-5  
 220118-53-6 220118-56-9, 1,2,3,3-Tetramethyl-3H-indolium  
 methanesulfonate 223397-50-0D, salts 223397-66-8D, salts  
 223397-83-9D, salts 223397-92-0D, salts 223398-02-5 223398-35-4D,  
 salts 223398-44-5 223398-44-5D, salts 223398-52-5D, salts  
 223398-61-6D, salts 223398-72-9 260980-91-4 260980-92-5  
 260980-93-6 260980-94-7 260980-95-8 260980-96-9 260980-97-0  
 260980-98-1 260980-99-2 260981-00-8 278807-62-8D, salts  
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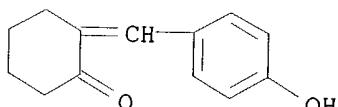
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**325853-08-5 325853-09-6** 341989-73-9,  
 2,6-Diethoxy-4-hydroxybenzaldehyde 343218-85-9 481648-77-5, Starlac  
 503853-81-4 503853-94-9 503854-80-6D, salts 503854-82-8D, salts  
 503854-83-9D, salts 503854-85-1D, salts 503854-87-3D, salts  
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 503855-52-5 503855-53-6 503855-54-7 503855-55-8 504433-01-6  
 504433-02-7 507224-48-8 669057-57-2, Pyrimidinium,  
 1,3-diethyl-2,3-dihydro-4,6-dimethyl-2-oxo-, chloride 669057-58-3  
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 669057-72-1 669057-74-3 669057-80-1 669057-81-2 669057-82-3  
 669057-86-7 669057-91-4 669057-93-6 669057-94-7 669057-96-9  
 708260-22-4D, salts 711012-37-2 711012-39-4 711012-41-8  
 711012-42-9 711012-43-0 711012-44-1 711012-45-2D, salts  
 711012-47-4 711012-48-5 711012-52-1D, salts 711012-56-5  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing tablets containing compds. with reactive carbonyl group)

IT 9004-34-6, Avicel PH102, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (microcryst.; hair dyeing tablets containing compds. with reactive carbonyl group)  
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**61078-48-6**, 2-(4-Hydroxybenzylidene)cyclohexanone  
**325853-04-1 325853-08-5 325853-09-6**  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyeing tablets containing compds. with reactive carbonyl group)

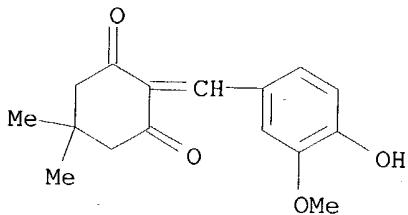
RN 61078-47-5 HCPLUS  
 CN Cyclopantanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



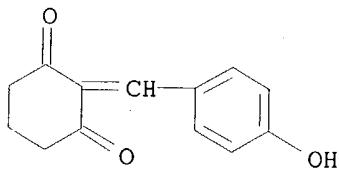
RN 61078-48-6 HCPLUS  
 CN Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



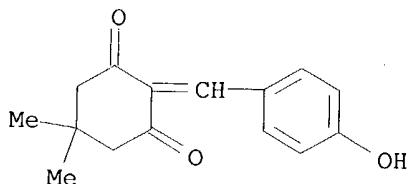
RN 325853-04-1 HCPLUS  
 CN 1,3-Cyclohexanedione, 2-[(4-hydroxy-3-methoxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



RN 325853-08-5 HCAPLUS  
 CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



RN 325853-09-6 HCAPLUS  
 CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



L76 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:525054 HCAPLUS

DN 141:59192

TI Hair dyes containing 1,3-dioxane-4,6-dion derivatives

IN Gross, Wibke; Hoeffkes, Horst; Oberkobusch, Doris

PA Henkel Kommanditgesellschaft Auf Aktien, Germany

SO Eur. Pat. Appl., 36 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1433469	A1	20040630	EP 2003-28794	20031213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	DE 10260832	A1	20040701	DE 2002-10260832	20021223
PRAI	DE 2002-10260832	A	20021223		
OS	MARPAT 141:59192				

AB The invention concerns hair dyes that contain 1,3-dioxane-4,6-dion derivs.; addnl. components are aldehydes, ketones, primary and secondary arylamines, aryl hydroxy compds., heterocycles and color enhancers. Thus 3 mmol of Meldrum's acid was mixed with 0.41 g sodium acetate in 30 mL water; 3 mmol of 2-methoxy cinnamic acid was added and pH was set to 6 with diluted hydrochloric acid. The mixture resulted yellow color on a hair sample.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair dye dioxane dione deriv aryl amine aldehyde

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(aromatic; hair dyes containing 1,3-dioxane-4,6-dion derivs.)

IT Hair preparations  
(dyes, oxidative; hair dyes containing 1,3-dioxane-4,6-dion derivs.)

IT Hair preparations  
(dyes; hair dyes containing 1,3-dioxane-4,6-dion derivs.)

IT Aldehydes, biological studies

Carbonates, biological studies

Halides

Heterocyclic compounds

Hydroxy compounds

Ketones, biological studies

Phosphates, biological studies

Sulfates, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyes containing 1,3-dioxane-4,6-dion derivs.)

IT 50-21-5D, Lactic acid, salts 59-48-3, Oxindol 62-53-3, Aniline,  
biological studies 64-18-6D, Formic acid, salt 64-19-7D, Acetic acid,  
salts 65-49-6, 4-Aminosalicylic acid 66-72-8, Pyridoxal 67-52-7,  
Barbituric acid 70-70-2 71-00-1, L-Histidine, biological studies  
74-79-3, L-Arginine, biological studies 77-92-9D, Citric acid, salts  
79-09-4D, Propionic acid, salts 79-14-1D, Glycolic acid, salts  
83-07-8, 4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one 83-30-7,  
2,4,6-Trihydroxybenzoic acid 83-33-0, 1-Indanone 83-56-7,  
1,5-Dihydroxynaphthalene 84-83-3, 2-Formylmethylen-1,3,3-  
trimethylindoline 86-51-1, 2,3-Dimethoxybenzaldehyde 87-02-5,  
7-Amino-4-hydroxynaphthalene-2-sulfonic acid 87-66-1, Pyrogallol  
87-69-4D, Tartaric acid, salts 88-21-1, 2-Aminobenzenesulfonic acid  
88-74-4, 2-Nitroaniline 89-25-8, 3-Methyl-1-phenylpyrazolin-5-one  
89-57-6, 5-Aminosalicylic acid 89-84-9 89-86-1, 2,4-Dihydroxybenzoic  
acid 90-02-8, 2-Hydroxybenzaldehyde, biological studies 90-15-3,  
1-Naphthol 90-20-0, 4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid  
90-44-8, Anthrone 91-29-2, 4'-Amino-4-nitrodiphenylamine-2-sulfonic acid  
91-56-5, Isatin 91-95-2, 3,3',4,4'-Tetraaminodiphenyl 92-44-4,  
2,3-Naphthalenediol 92-65-9, N-(2-Hydroxyethyl)-N-ethyl-p-  
phenylenediamine 93-02-7, 2,5-Dimethoxybenzaldehyde 93-05-0,  
N,N-Diethyl-p-phenylenediamine 93-55-0, Propiophenone 95-01-2,  
2,4-Dihydroxybenzaldehyde 95-54-5, o-Phenylenediamine, biological  
studies 95-55-6, 2-Aminophenol 95-70-5, 2,5-Diaminotoluol 95-88-5,  
4-Chlororesorcin 96-91-3, Picramic acid 96-93-5, 3-Amino-4-hydroxy-5-  
nitrobenzenesulfonic acid 97-51-8, 2-Hydroxy-5-nitrobenzaldehyde  
98-01-1, Furfural, biological studies 98-37-3, 3-Amino-4-  
hydroxybenzenesulfonic acid 98-79-3, Pyrrolidone-5-carboxylic acid  
98-86-2, Acetophenone, biological studies 99-05-8, 3-Aminobenzoic acid  
99-07-0 99-31-0, 5-Aminoisophthalic acid 99-50-3, 3,4-Dihydroxybenzoic  
acid 99-56-9, 1,2-Diamino-4-nitrobenzene 99-61-6, 3-Nitrobenzaldehyde  
99-92-3 99-93-4, 4-Hydroxyacetophenone 99-98-9, N,N-Dimethyl-p-  
phenylenediamine 100-01-6, 4-Nitroaniline, biological studies

100-10-7, 4-Dimethylaminobenzaldehyde 100-83-4, 3-Hydroxybenzaldehyde  
101-54-2, N-Phenyl-1,4-phenylenediamine 101-77-9, 4,4'-  
Diaminodiphenylmethane 101-80-4, 4,4'-Diaminodiphenyl ether 102-32-9,  
3,4-Dihydroxyphenylacetic acid 106-50-3, p-Phenylenediamine, biological  
studies 107-92-6D, Butyric acid, salts 108-45-2, m-Phenylenediamine,  
biological studies 108-46-3, Resorcin, biological studies 108-72-5,  
1,3,5-Triaminobenzene 108-73-6, Phloroglucin 109-00-2,  
3-Hydroxypyridine 109-52-4D, Valeric acid, salts 110-85-0,  
Piperazidine, biological studies 110-86-1, Pyridine, biological studies  
110-89-4, Piperidine, biological studies 116-63-2, 4-Amino-3-  
hydroxynaphthalene-1-sulfonic acid 117-39-5, Quercetin 118-12-7  
118-70-7, 4,5,6-Triaminopyrimidine 118-92-3, 2-Aminobenzoic acid  
118-93-4 119-34-6, 4-Amino-2-nitrophenol 119-59-5,  
4,4'-Diaminodiphenylsulfoxide 119-61-9, Benzophenone, biological studies  
119-70-0, 4,4'-Diaminodiphenylamine-2-sulfonic acid 120-14-9,  
3,4-Dimethoxybenzaldehyde 120-21-8, 4-Diethylaminobenzaldehyde  
120-46-7, 2-Benzoylacetophenone 120-57-0, Piperonal 121-32-4,  
3-Ethoxy-4-hydroxybenzaldehyde 121-33-5, Vanillin 121-47-1,  
3-Aminobenzenesulfonic acid 121-57-3, 4-Aminobenzenesulfonic acid  
121-71-1 122-57-6 123-08-0, 4-Hydroxybenzaldehyde 123-11-5,  
4-Methoxybenzaldehyde, biological studies 123-30-8, 4-Aminophenol  
123-31-9, Hydroquinone, biological studies 123-75-1, Pyrrolidine,  
biological studies 126-81-8, 5,5-Dimethylcyclohexane-1,3-dione  
131-56-6, 2,4-Dihydroxybenzophenone 134-96-3, 4-Hydroxy-3,5-  
dimethoxybenzaldehyde 135-02-4, 2-Methoxybenzaldehyde 139-65-1,  
4,4'-Diaminodiphenylsulfide 139-85-5, 3,4-Dihydroxybenzaldehyde  
141-84-4 141-86-6, 2,6-Diaminopyridine 142-08-5, 2-Hydroxypyridine  
142-62-1D, Capronic acid, salts 147-85-3, L-Proline, biological studies  
149-91-7, Gallic acid, biological studies 150-13-0, 4-Aminobenzoic acid  
150-19-6, 3-Methoxyphenol 150-75-4, 4-Methylaminophenol 156-81-0,  
2,4-Diaminopyrimidine 326-91-0, 2-Thenoyltrifluoroacetone 350-03-8,  
3-Acetylpyridine 387-46-2, 2,6-Dihydroxybenzaldehyde 452-58-4,  
2,3-Diaminopyridine 458-36-6, Coniferylaldehyde 462-08-8,  
3-Aminopyridine 480-66-0 486-25-9, 9-Fluorenone 487-70-7,  
2,4,6-Trihydroxybenzaldehyde 487-89-8, Indole-3-aldehyde 488-87-9,  
2,5-Dimethylresorcin 490-78-8 491-38-3, Chromone 491-67-8,  
5,6,7-Trihydroxyflavone 496-73-1, 4-Methylresorcin 498-02-2  
498-94-2, Piperidine-4-carboxylic acid 500-22-1, 3-Pyridinaldehyde  
504-15-4 504-17-6, Thiobarbituric acid 504-24-5, 4-Aminopyridine  
504-29-0, 2-Aminopyridine 520-36-5, 4',5,7-Trihydroxyflavone 525-82-6,  
Flavone 528-21-2 528-75-6, 2,4-Dinitrobenzaldehyde 533-31-3,  
3,4-Methylenedioxyphenol 533-73-3, Hydroxyhydroquinone 535-75-1,  
Piperidine-2-carboxylic acid 537-65-5, 4,4'-Diaminodiphenylamine  
548-83-4, 3,5,7-Trihydroxyflavone 552-89-6, 2-Nitrobenzaldehyde  
553-86-6, Cumaranone 555-16-8, 4-Nitrobenzaldehyde, biological studies  
570-24-1, 6-Nitro-o-toluidine 574-19-6 577-56-0 577-85-5,  
3-Hydroxyflavone 578-66-5, 8-Aminoquinoline 579-72-6,  
2-Dimethylaminobenzaldehyde 580-17-6, 3-Aminoquinoline 580-22-3,  
2-Aminoquinoline 582-17-2, 2,7-Naphthalenediol 586-89-0 591-27-5,  
3-Aminophenol 591-31-1, 3-Methoxybenzaldehyde 603-81-6,  
2,3-Diaminobenzoic acid 605-59-4, 1-Ethyl-4-methylquinolinium iodide  
606-23-5, Indan-1,3-dione 606-31-5, 2,6-Dinitrobenzaldehyde 606-55-3,  
1-Ethyl-2-methylquinolinium iodide 606-57-5, 2-Amino-1-nitronaphthalene  
608-08-2, 3-Indoxylacetate 608-25-3, 2-Methylresorcin 608-97-9,  
Pentaaminobenzene 610-74-2, 2,5-Diaminobenzoic acid 610-81-1,  
4-Amino-3-nitrophenol 610-99-1 611-03-0, 2,4-Diaminobenzoic acid  
611-09-6, 5-Nitroisatin 611-98-3, 4,4'-Diaminobenzophenone 611-99-4,  
4,4'-Dihydroxybenzophenone 613-45-6, 2,4-Dimethoxybenzaldehyde  
613-69-4, 2-Ethoxybenzaldehyde 614-16-4, Benzoylacetonitrile 614-82-4,

2,4-Dihydroxyphenylacetic acid 615-66-7, 2-Chloro-p-phenylenediamine  
 615-71-4, 1,2,4-Triaminobenzene 616-45-5, Pyrrolidone 616-47-7,  
 1-Methylimidazole 619-05-6, 3,4-Diaminobenzoic acid 621-59-0,  
 3-Hydroxy-4-methoxybenzaldehyde 621-96-5, 4,4'-Diaminostilbene  
 626-64-2, 4-Hydroxypyridine 636-25-9, 2,5-Diaminophenol 673-22-3,  
 2-Hydroxy-4-methoxybenzaldehyde 698-63-5, 5-Nitrofurfural, biological  
 studies 699-83-2 703-80-0, 3-Acetylindole 704-13-2,  
 3-Hydroxy-4-nitrobenzaldehyde 708-06-5, 2-Hydroxy-1-naphthaldehyde  
 711-79-5 712-97-0, 6-Nitropiperonal 779-90-8, 1,3,5-Triacetylbenzene  
 830-74-0, 1-Allylisatin 830-79-5, 2,4,6-Trimethoxybenzaldehyde  
 832-58-6, 2,4,6-Trimethoxyacetophenone 872-85-5, 4-  
 Pyridinecarboxaldehyde 873-74-5, 4-Aminobenzonitrile 876-87-9,  
 1,2-Dimethylquinolinium iodide 932-16-1, 1-Methyl-2-acetylpyrrole  
 934-22-5, 5-Aminobenzimidazole 943-88-4, 4-Methoxybenzylideneacetone  
 950-81-2, 4-Antipyrinecarboxaldehyde 1004-74-6, 2,4,5,6-  
 Tetraaminopyrimidine 1004-75-7, 4-Hydroxy-2,5,6-triaminopyrimidine  
 1009-61-6, 1,4-Diacetylbenzene 1080-12-2, 4-Hydroxy-3-  
 methoxybenzylideneacetone 1080-74-6 1081-48-7 1121-60-4,  
 2-Pyridinaldehyde 1122-54-9, 4-Acetylpyridine 1122-62-9,  
 2-Acetylpyridine 1123-55-3, 7-Aminobenzothiazole 1123-93-9,  
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 1137-42-4, 4-Hydroxybenzophenone 1143-38-0, 1,8-Dihydroxyanthrone  
 1143-72-2, 2,3,4-Trihydroxybenzophenone 1192-58-1 1194-98-5,  
 2,5-Dihydroxybenzaldehyde 1197-55-3, 4-Aminophenylacetic acid  
 1199-59-3, 4-Dimethylamino-2-methylbenzaldehyde 1204-86-0,  
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 1450-75-5

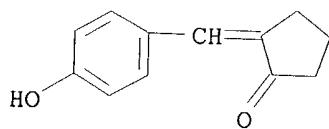
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 (hair dyes containing 1,3-dioxane-4,6-dion derivs.)

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 Trihydroxybenzophenone 1483-97-2, 3,6-Diacetyl-9-ethylcarbazole  
 1484-05-5, 3-Acetyl-9-methylcarbazole 1504-74-1 1504-76-3 1571-72-8,  
 3-Amino-4-hydroxybenzoic acid 1620-53-7 1658-27-1,  
 1,5-Dioxaspiro[5.5]undecane-2,4-dione 1734-79-8 1820-80-0,  
 3-Aminopyrazole 1874-22-2 1963-36-6 1971-81-9, 4-Dimethylamino-1-  
 naphthaldehyde 2033-24-1, 1,3-Dioxane-4,6-dione, 2,2-dimethyl-  
 2058-74-4, 1-Methylisatin 2089-78-3 2103-57-3, 2,3,4-  
 Trimethoxybenzaldehyde 2124-31-4 2144-08-3, 2,3,4-  
 Trihydroxybenzaldehyde 2233-18-3, 4-Hydroxy-3,5-dimethylbenzaldehyde  
 2291-40-9 2374-03-0, 4-Amino-3-hydroxybenzoic acid 2380-94-1,  
 4-Hydroxyindole 2478-38-8 2539-53-9, 4-Ethoxy-3-hydroxybenzaldehyde  
 2654-52-6, 2,3-Dimethylbenzothiazolium-p-toluenesulfonate 2688-48-4,  
 5-Hydroxy-2-coumaranone 2688-49-5 2784-89-6, 4-Amino-2-  
 nitrodiphenylamine 2785-06-0, 2,3-Dimethylbenzothiazolium iodide  
 2835-77-0, 2-Aminobenzophenone 2835-95-2, 2-Methyl-5-aminophenol  
 2835-98-5 2835-99-6, 4-Amino-3-methylphenol 2871-01-4, HC Red 3  
 2887-61-8, 2-Hydroxybutyrophenone 3011-34-5, 4-Hydroxy-3-  
 nitrobenzaldehyde 3119-93-5, 3-Ethyl-2-methylbenzothiazolium iodide  
 3131-52-0, 5,6-Dihydroxyindole 3158-63-2, 1,3-Dimethylthiobarbituric  
 acid 3160-35-8, 4-Hydroxybenzylidene acetone 3160-37-0 3167-49-5,  
 6-Aminonicotinic acid 3204-61-3, 1,2,4,5-Tetraaminobenzene 3215-37-0,  
 3-Acetylcarbazole 3240-72-0, 2,4-Dihydroxy-5,6-diaminopyrimidine  
 3342-78-7, 2-Aminophenylacetic acid 3392-97-0, 2,6-Dimethoxybenzaldehyde  
 3433-54-3, 6-Nitroisatin 3565-42-2, Quinisatin 3709-16-8 4181-05-9,  
 4-Diphenylaminobenzaldehyde 4318-76-7, 2,5-Diaminopyridine 4331-29-7,  
 7-Aminobenzimidazole 4335-90-4 4354-85-2D, 1,3-Dioxane-4,6-dione,  
 derivs. 4363-93-3, 4-Quinolinecarboxaldehyde 4444-26-2,  
 Hexaaminobenzene 4460-86-0, 2,4,5-Trimethoxybenzaldehyde 4928-43-2,  
 2-Dimethylamino-5-aminopyridine 4940-39-0, Chromone-2-carboxylic acid

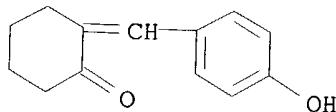
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 2-[2-(Diethylamino)ethylamino]-5-nitroaniline 5131-58-8 5192-03-0,  
 5-Aminoindole 5192-04-1, 7-Aminoindole 5192-23-4, 4-Aminoindole  
 5217-47-0, 1,3-Diethylthiobarbituric acid 5260-37-7,  
 3-Ethyl-2-methylbenzoxazolium iodide 5274-70-4, 2-Hydroxy-3-  
 nitrobenzaldehyde 5307-02-8 5307-14-2, 1,4-Diamino-2-nitrobenzene  
 5318-27-4, 6-Aminoindole 5345-47-1, 2-Aminonicotinic acid 5392-12-1,  
 2-Methoxy-1-naphthaldehyde 5416-80-8 5418-63-3, 1,2,3,3-Tetramethyl-3H-  
 indolium iodide 5432-53-1, 4-Dimethylaminobenzylideneacetone  
 5434-20-8, 3-Aminophthalic acid 5466-88-6, 2H-1,4-Benzoxazin-3(4H)-one  
 5551-11-1, 4-Chloro-2-nitrobenzaldehyde 5556-84-3, 2,3,5-  
 Trimethoxybenzaldehyde 5556-86-5, 2,3,6-Trimethoxybenzaldehyde  
 5650-41-9, 3-Hydroxypropiophenone 5679-13-0, 2-Benzylidenecyclopentanone  
 5682-83-7, 2-Benzylidenecyclohexanone 5850-35-1, Acid blue 29  
 5959-52-4, 3-Amino-2-naphthoic acid 6051-53-2, 2-  
 Hydroxybenzylideneacetone 6201-65-6, 2-Chlororesorcin 6203-18-5,  
 4-Dimethylaminozimaldehyde 6247-27-4, Mordant brown 4 6259-50-3,  
 6-Dimethylamino-4-hydroxy-2-naphthalene sulfonic acid 6271-44-9,  
 1,2,3-Trimethylquinoxalinium iodide 6322-56-1, 4-Hydroxy-3-  
 nitroacetophenone 6358-09-4, 2-Amino-6-chloro-4-nitrophenol 6361-22-4,  
 2-Chloro-6-nitrobenzaldehyde 6399-72-0, 6-Amino-7-hydroxynaphthalene-2-  
 sulfonic acid 6628-04-2, 4-Aminoquinidine 6628-86-0,  
 5-Chloro-2-nitrobenzaldehyde 6633-46-1 6634-82-8 6635-20-7,  
 5-Nitrovanillin 6781-42-6, 1,3-Diacetylbenzene 6967-12-0,  
 6-Aminoindazole 7218-02-2 7311-34-4, 3,5-Dimethoxybenzaldehyde  
 7313-70-4, 5-Sulfoisatin 7336-20-1, 4,4'-Diaminostilbene-2,2'-disulfonic  
 acid disodium salt 7429-90-5D, Aluminum, salts 7439-89-6D, Iron, salts  
 7439-93-2D, Lithium, salts 7439-95-4D, Magnesium, salts 7439-96-5D,  
 Manganese, salts 7440-09-7D, Potassium, salts 7440-23-5D, Sodium,  
 salts 7440-24-6D, Strontium, salts 7440-39-3D, Barium, salts  
 7440-48-4D, Cobalt, salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc,  
 salts 7440-70-2D, Calcium, salts 7570-45-8, N-Ethylcarbazol-3-aldehyde  
 7575-35-1, N,N-Bis(2-hydroxyethyl)-p-phenylenediamine 7648-01-3  
 7664-41-7D, Ammonia, salt 7722-84-1, Hydrogen peroxide, biological  
 studies 7749-47-5, 2-Amino-4-methoxy-6-methylpyrimidine 7770-45-8,  
 4-Hydroxy-1-naphthaldehyde 10031-82-0, 4-Ethoxybenzaldehyde  
 10040-98-9, 4-(1-Imidazolyl)benzaldehyde 10041-06-2 10111-08-7,  
 1H-Imidazole-2-carboxaldehyde 10173-66-7 10182-90-8D,  
 2-Formyl-1-methylpyridinium, salts 10338-57-5, 4-Piperidinobenzaldehyde  
 10342-85-5 13066-97-2 13441-40-2D, salts 13505-39-0,  
 3-Hydroxybutyrophenone 13669-42-6, 3-Quinoliniccarboxaldehyde  
 13754-19-3, 4,5-Diaminopyrimidine 14268-66-7, 3,4-Methylenedioxylaniline  
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 3-Ethyl-2-methylbenzothiazolium-p-toluenesulfonate 15174-69-3,  
 4-Hydroxy-3-methylbenzaldehyde 15477-76-6, Phosphonate 15971-29-6,  
 4-Methoxy-1-naphthaldehyde 16082-33-0, 3,5-Diaminopyrazole 16588-34-4,  
 4-Chloro-3-nitrobenzaldehyde 16634-88-1, 5-Bromo-3-nitrosalicylaldehyde  
 16859-86-2, 1,4-Dimethylquinolinium iodide 16867-03-1,  
 2-Amino-3-hydroxypyridine 17028-61-4, 2-Hydroxy-3-methoxy-5-  
 nitrobenzaldehyde 17422-74-1, Chromone-3-aldehyde 17630-76-1,  
 5-Chloroisatin 17672-22-9 17754-90-4, 4-Diethylamino-2-  
 hydroxybenzaldehyde 17792-58-4 18073-18-2 18278-34-7,  
 4-Hydroxy-2-methoxybenzaldehyde 18899-16-6D, salts 19005-93-7,  
 1H-Indole-2-carboxaldehyde 19012-02-3, 1-Methyl-3-acetylindole  
 19012-03-4 19275-14-0 19335-11-6, 5-Aminoindazole 19735-89-8,  
 1-Phenyl-3-methylpyrazol-5-one 20048-92-4, 1-Ethyl-2-methylquinolinium-p-  
 toluene sulfonate 20103-09-7, 2,5-Dichloro-p-phenylenediamine  
 20357-25-9, 4,5-Dimethoxy-2-nitrobenzaldehyde 21240-56-2 22080-96-2,  
 4-Hydroxy-2,6-dimethoxybenzaldehyde 22411-59-2 22525-43-5

22715-34-0, 2-Hydroxy-4,5,6-triaminopyrimidine 22924-15-8,  
 3-Ethoxybenzaldehyde 22948-94-3 23244-87-3, 2,4,5-Triaminopyridine  
 23894-07-7 24677-78-9, 2,3-Dihydroxybenzaldehyde 24905-87-1, HC Red 7  
 25128-32-9, 5-Carboxyisatin 26153-38-8, 3,5-Dihydroxybenzaldehyde  
 26216-16-0 27394-81-6, 5-(4-Methoxyphenyl)penta-2,4-dienal 27841-29-8  
 28020-38-4, 2,3-Diamino-6-methoxypyridine 28746-58-9 29539-03-5,  
 5,6-Dihydroxyindoline 29705-39-3 31680-07-6, 4-Methyl-3-  
 nitrobenzaldehyde 31835-64-0, 3-Amino-3'-nitrobiphenyl 32479-73-5,  
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 2,4,5-Trihydroxybenzaldehyde 36075-79-3D, salts 36518-76-0  
 37705-82-1, 2,4-Diaminobenzonitrile 39755-03-8, 4-Hydroxybutyrophenone  
 39755-95-8, 5-Methoxyisatin 39910-98-0 41438-18-0,  
 4-Hydroxy-2-methylbenzaldehyde 41602-56-6, 4-Dimethylamino-2-  
 hydroxybenzaldehyde 42426-35-7 42454-06-8, 5-Hydroxy-2-  
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 salts 46791-37-1D, salts 50610-28-1 50899-59-7, 1-  
 Hydroxymethylisatin 51387-92-9 51980-54-2, 4-Pyrrolidinobenzaldehyde  
 52943-88-1, 1-Phenyl-3-methyl-4,5-diaminopyrazole 53055-05-3,  
 3-Methoxy-2-nitrobenzaldehyde 54628-24-9D, salts 55047-63-7  
 55302-96-0, 2-Methyl-5-(2-hydroxyethylamino)phenol 55952-56-2,  
 1-Ethyl-4-methylquinolinium-p-toluenesulfonate 56932-44-6, HC Yellow 5  
 58028-76-5, 2-Morpholinobenzaldehyde 58093-05-3, 6,10-  
 Dioxaspiro[4.5]decane-7,9-dione 58093-06-4, 1,5-Dioxaspiro[5.6]dodecane-  
 2,4-dione 58380-40-8, 4-Hydroxy-2,3-dimethylbenzaldehyde 60126-36-5,  
 3-Ethyl-2-methylbenzoxazolium-p-toluenesulfonate **61078-47-5**  
**61078-48-6** 61224-35-9, 1,2,3,3-Tetramethyl-3H-indolium-p-toluene  
 sulfonate 61693-42-3, 3-Amino-2,4-dichlorophenol 62378-72-7  
 62496-02-0, 2-Methylamino-4,5,6-triaminopyrimidine 63053-27-0  
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 5-(4-Dimethylaminophenyl)penta-2,4-dienal 83763-47-7 84540-47-6,  
 2,6-Dihydroxy-3,4-dimethylpyridine 84540-50-1, 3-Amino-2-chloro-6-  
 methylphenol 84562-48-1, 4-Dimethylamino-2-methoxybenzaldehyde  
 85231-15-8, 4-Hydroxy-2,5-dimethylbenzaldehyde 85561-52-0,  
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 diaminopyridine 87345-53-7 90134-10-4, 4-Dibutylaminobenzaldehyde  
 90817-34-8, 2-Methylamino-3-amino-6-methoxypyridine 91902-53-3  
 93841-24-8, 2-(2,5-Diaminophenyl)ethanol 93923-57-0 95576-89-9, HC Red  
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 115423-86-4, 1,3-Diamino-2,4-dimethoxybenzene 117907-43-4  
 122438-74-8D, salts 122455-85-0, 5-Amino-4-fluoro-2-methylphenol  
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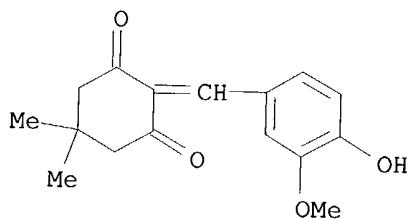
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 2,5-Dihydroxy-4-morpholinoaniline 159661-45-7, 1,8-Bis(2,5-  
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 5-(4-Diethylaminophenyl)penta-2,4-dienal 187413-62-3, Basic Orange 3  
 211872-02-5 215517-65-0 215517-66-1 215517-68-3 220118-56-9,  
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 223397-66-8D, salts 223397-83-9D, salts 223397-92-0D, salts  
 223398-35-4D, salts 223398-44-5D, salts 227201-32-3,  
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 260980-93-6 260980-94-7 260980-95-8 260980-96-9 260980-97-0  
 260980-98-1 260980-99-2 260981-00-8 260981-02-0,  
 N-(2-Methoxyethyl)-p-phenylenediamine 260981-03-1, 2,3-Dichloro-p-  
 phenylenediamine 262853-93-0, Piperidine-3-carboxylic acid  
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 278807-65-1D, salts 278807-66-2D, salts 278807-67-3D, salts  
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 278807-80-0D, salts 279214-38-9 313219-61-3 **325853-04-1**  
**325853-08-5 325853-09-6** 341989-73-9,  
 2,6-Diethoxy-4-hydroxybenzaldehyde 346593-13-3, 3-Amino-4-  
 nitroacenaphthene 375856-52-3 380897-77-8 381211-44-5 503853-81-4  
 503853-94-9 503854-79-3D, salts 503854-80-6D, salts 503854-82-8D,  
 salts 503854-83-9D, salts 503854-84-0D, salts 503854-85-1D, salts  
 503854-87-3D, salts 503854-88-4D, salts 503854-89-5D, salts  
 503854-90-8D, salts 503854-91-9D, salts 503854-92-0D, salts  
 503854-93-1D, salts 503854-95-3D, salts 503855-01-4D, salts  
 503855-03-6D, salts 503855-05-8D, salts 503855-07-0D, salts  
 503855-09-2D, salts 503856-02-8 503856-16-4 503856-17-5  
 503856-18-6 506436-47-1 507484-87-9 709014-17-5 709014-18-6D,  
 salts 709014-19-7D, salts 709014-20-0D, salts 709014-21-1D, salts  
 709014-23-3 709014-24-4  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyes containing 1,3-dioxane-4,6-dion derivs.)  
 IT 16214-27-0, Indan-1,2-dione  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyes containing 1,3-dioxane-4,6-dione derivs.)  
 IT **61078-47-5 61078-48-6 325853-04-1**  
**325853-08-5 325853-09-6**  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyes containing 1,3-dioxane-4,6-dion derivs.)  
 RN 61078-47-5 HCPLUS  
 CN Cyclopentanone, 2-[ (4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



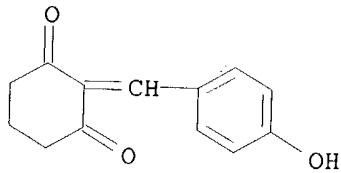
RN 61078-48-6 HCAPLUS  
CN Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



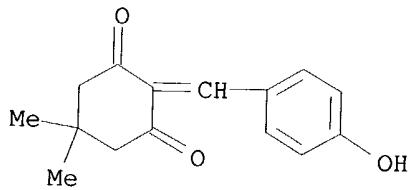
RN 325853-04-1 HCAPLUS  
CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



RN 325853-08-5 HCAPLUS  
CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



RN 325853-09-6 HCAPLUS  
CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

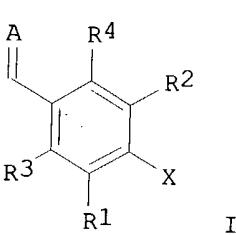
L76 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:305130 HCAPLUS  
DN 140:326609  
TI Hair dye composition comprising methine dye  
IN Pratt, Dominic; Kawagishi, Toshio  
PA Kao Corporation, Japan; Fuji Photo Film Co., Ltd.  
SO Eur. Pat. Appl., 25 pp.  
CODEN: EPXXDW

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1407756	A2	20040414	EP 2003-20454	20030912
	EP 1407756	A3	20040714		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004155746	A2	20040603	JP 2002-328676	20021112
	US 2004117922	A1	20040624	US 2003-660536	20030912
PRAI	JP 2002-269173	A	20020913		
OS	MARPAT 140:326609				

*applicant*



AB A hair dye composition is provided containing a dissociative direct dye I  
(R1-4 =

H, substituent; X = OH, NH<sub>2</sub>OR<sub>5</sub>, R<sub>5</sub> = alkyl, aryl, heterocycle; A = divalent group capable of forming methine dye). The hair dye composition is capable of strongly dyeing the hair with a vivid color tone without causing decomposition of the dye during the dyeing process, exhibits an excellent resistance against sunlight, hair washing, perspiration, friction and heat, has a high stability against an alkali agent and an oxidizing agent, has a high dyeing property, and has less color fade after the passage of time.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST Section cross-reference(s): 28

IT methine direct dye prepns hair coloring compn

IT Dyes

(direct; preparation and compns. of methine direct dyes for hair coloring)

IT Hair preparations

(dyes; preparation and compns. of methine direct dyes for hair coloring)

IT Cyanine dyes

(preparation and compns. of methine direct dyes for hair coloring)

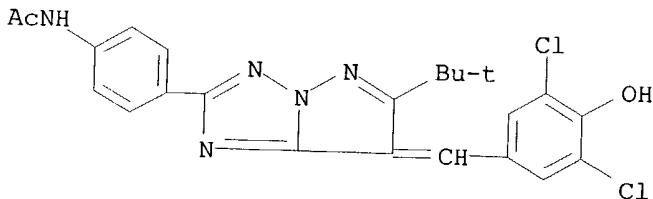
IT 677751-28-9P **677751-29-0P 677751-30-3P**  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation and compns. of methine direct dyes for hair coloring)

IT 2314-36-5, 3,5-Dichloro-4-hydroxybenzaldehyde 56278-50-3,  
 2-Benzothiazolylacetonitrile 162369-79-1 677751-31-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation and compns. of methine direct dyes for hair coloring)

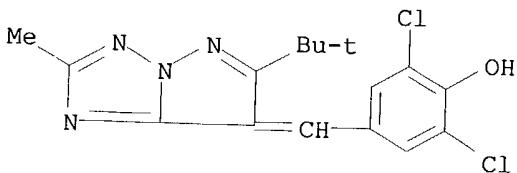
IT **677751-29-0P 677751-30-3P**  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation and compns. of methine direct dyes for hair coloring)

RN 677751-29-0 HCAPLUS

CN Acetamide, N-[4-[7-[(3,5-dichloro-4-hydroxyphenyl)methylene]-6-(1,1-dimethylethyl)-7H-pyrazolo[1,5-b][1,2,4]triazol-2-yl]phenyl]- (9CI) (CA INDEX NAME)



RN 677751-30-3 HCAPLUS  
 CN Phenol, 2,6-dichloro-4-[[6-(1,1-dimethylethyl)-2-methyl-7H-pyrazolo[1,5-b][1,2,4]triazol-7-ylidene]methyl]- (9CI) (CA INDEX NAME)



L76 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:198261 HCAPLUS  
 DN 140:258594  
 TI Oxidative hair dyes containing 1,2-dihydropyrimidine derivatives and carbonyl derivatives of aryl and heteroaryl compounds  
 IN Gross, Wibke; Mausberg, Sandra; Hoeffkes, Horst; Oberkobusch, Doris  
 PA Henkel K.-G.a.A., Germany  
 SO Ger. Offen., 42 pp.  
 CODEN: GWXXBX

DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10241076	A1	20040311	DE 2002-10241076	20020905
	WO 2004022016	A1	20040318	WO 2003-EP9366	20030823
	W: AU, BR, CA, CN, JP, NO, PL, RU, US, VN				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				

IT, LU, MC, NL, PT, RO, SE, SI, SK, TR  
PRAI DE 2002-10241076 A 20020905  
OS MARPAT 140:258594

AB The invention concerns oxidative hair dyes that contain 1,2-dihydropyrimidine derivs. or their enamine forms and aryl or heteroaryl compds. with reactive carbonyl groups; further components can be added, e.g. CH-acidic compds., primary or secondary amino or hydroxy compds., aromatic hydroxy compds., primary, or secondary aromatic amines or N-heterocycles. The compns. include surfactants and optionally direct dyes and color-enhancers. Thus in a coloring experiment 3 mmol of 1,2-dihydro-1,3,4,6--tetramethyl-oxo-pyridium chloride was mixed with 0.41 g sodium acetate and 30 mL water at ca. 50°C. Before application 3 mmol 2,4-dihydrobenzaldehyde was added; pH was set to 9 with 10% sodium hydroxide. A reddish purple color was obtained.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST oxidative hair dye dihydropyrimidine deriv aryl heteroaryl reactive carbonyl

IT Surfactants

(anionic; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Amines, biological studies

Nitro compounds

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(aromatic; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(aryl, heterocyclic; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Dyes

(direct; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Hair preparations

(dyes, oxidative; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Hair preparations

(dyes; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Aromatic compounds

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(nitro; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Surfactants

(nonionic; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Oxidizing agents

(oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Carbonyl compounds (organic), biological studies

Hydroxy compounds

Quaternary ammonium compounds, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Amines, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(primary; oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT Amines, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(secondary; oxidative hair dyes containing 1,2-dihydropyrimidine derivs.  
and carbonyl derivs. of aryl and heteroaryl compds.)

IT Surfactants  
(zwitterionic; oxidative hair dyes containing 1,2-dihydropyrimidine derivs.  
and carbonyl derivs. of aryl and heteroaryl compds.)

IT 346684-81-9, Palatinchrome green  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(deoxidative hair dyes containing 1,2-dihydropyrimidine derivs. and  
carbonyl derivs. of aryl and heteroaryl compds.)

IT 59-48-3, Oxindole 62-53-3, Aniline, biological studies 65-49-6,  
4-Aminosalicylic acid 66-72-8, Pyridoxal 67-52-7, Barbituric acid  
70-70-2 71-00-1, L-Histidine, biological studies 74-79-3, L-Arginine,  
biological studies 83-07-8 83-30-7, 2,4,6-Trihydroxybenzoic acid  
83-33-0, 1-Indanone 83-56-7, 1,5-Dihydroxynaphthalene 84-83-3  
86-51-1, 2,3-Dimethoxybenzaldehyde 87-02-5, 7-Amino-4-hydroxynaphthalene-  
2-sulfonic acid 87-66-1, Pyrogallol 88-21-1, 2-Aminobenzene sulfonic  
acid 88-74-4, 2-Nitroaniline 89-25-8 89-57-6, 5-Aminosalicylic acid  
89-84-9 89-86-1, 2,4-Dihydroxybenzoic acid 90-02-8,  
2-Hydroxybenzaldehyde, biological studies 90-05-1, 2-Methoxyphenol  
90-15-3, 1-Naphthol 90-20-0, 4-Amino-5-hydroxynaphthalene-2,7-disulfonic  
acid 90-44-8, Anthrone 91-29-2, 4'-Amino-4-nitrodiphenylamine-2-  
sulfonic acid 91-56-5, Isatin 91-95-2, 3,3',4,4'-Tetraaminodiphenyl  
92-44-4, 2,3-Dihydroxynaphthalene 92-65-9, N-(2-Hydroxyethyl)-N-ethyl-p-  
phenylenediamine 93-02-7, 2,5-Dimethoxybenzaldehyde 93-05-0,  
N,N-Diethyl-p-phenylenediamine 93-55-0, Propiophenone 95-01-2,  
2,4-Dihydroxybenzaldehyde 95-54-5, o-Phenylenediamine, biological  
studies 95-55-6, 2-Aminophenol 95-70-5, 2,5-Diaminotoluene 95-88-5,  
4-Chlororesorcin 96-91-3, Picramic acid 96-93-5, 3-Amino-4-hydroxy-5-  
nitrobenzene sulfonic acid 97-51-8, 2-Hydroxy-5-nitrobenzaldehyde  
98-01-1, Furfural, biological studies 98-37-3, 3-Amino-4-hydroxybenzene  
sulfonic acid 98-79-3, Pyrrolidone-5-carboxylic acid 98-86-2,  
Acetophenone, biological studies 99-05-8, 3-Aminobenzoic acid 99-07-0  
99-50-3, 3,4-Dihydroxybenzoic acid 99-56-9, 1,2-Diamino-4-nitrobenzene  
99-61-6, 3-Nitrobenzaldehyde 99-92-3 99-93-4, 4-Hydroxyacetophenone  
99-98-9, N,N-Dimethyl-p-phenylenediamine 100-01-6, 4-Nitroaniline,  
biological studies 100-10-7, 4-Dimethylaminobenzaldehyde 100-83-4,  
3-Hydroxybenzaldehyde 101-54-2, N-Phenyl-1,4-phenylenediamine  
101-77-9, 4,4'-Diaminodiphenylmethane 101-80-4, 4,4'-  
Diaminodiphenylether 102-32-9, 3,4-Dihydroxy-phenylacetic acid  
106-50-3, p-Phenylenediamine, biological studies 108-45-2,  
m-Phenylenediamine, biological studies 108-46-3, Resorcin, biological  
studies 108-72-5, 1,3,5-Triaminobenzene 108-73-6, Phloroglucin  
109-00-2, 3-Hydroxypyridine 110-89-4, Piperidine, biological studies  
116-63-2, 4-Amino-3-hydroxynaphthalene-1-sulfonic acid 117-39-5,  
Quercetin 118-12-7, 1,3,3-Trimethyl-2-methylene indoline 118-70-7,  
4,5,6-Triaminopyrimidine 118-92-3, 2-Aminobenzoic acid 118-93-4  
119-34-6, 4-Amino-2-nitrophenol 119-59-5, 4,4'-Diaminodiphenylsulfoxide  
119-61-9, Benzophenone, biological studies 119-70-0,  
4,4'-Diaminodiphenylamine-2-sulfonic acid 120-14-9, 3,4-  
Dimethoxybenzaldehyde 120-21-8, 4-Diethylaminobenzaldehyde 120-46-7,  
2-Benzoylacetophenone 120-57-0, Piperonal 120-72-9, Indole, biological  
studies 120-80-9, 1,2-Benzenediol, biological studies 121-32-4,  
3-Ethoxy-4-hydroxybenzaldehyde 121-33-5, Vanillin 121-47-1,  
3-Aminobenzene sulfonic acid 121-57-3, 4-Aminobenzene sulfonic acid  
121-71-1 122-57-6 123-08-0, 4-Hydroxybenzaldehyde 123-11-5,  
4-Methoxybenzaldehyde, biological studies 123-30-8, 4-Aminophenol  
123-31-9, Hydroquinone, biological studies 123-75-1, Pyrrolidine,

biological studies 126-81-8, 5,5-Dimethylcyclohexane-1,3-dione  
 131-56-6, 2,4-Dihydroxybenzophenone 134-96-3, 4-Hydroxy-3,5-dimethoxybenzaldehyde 135-02-4, 2-Methoxybenzaldehyde 139-65-1, 4,4'-Diaminodiphenylsulfide 139-85-5, 3,4-Dihydroxybenzaldehyde 141-84-4, Rhodanine 141-86-6, 2,6-Diaminopyridine 142-08-5, 2-Hydroxypyridine 147-85-3, L-Proline, biological studies 149-91-7, Gallic acid, biological studies 150-13-0, 4-Aminobenzoic acid 150-19-6, 3-Methoxyphenol 150-75-4, 4-Methylaminophenol 150-76-5, 4-Methoxyphenol 156-81-0, 2,4-Diaminopyrimidine 326-91-0, 2-Thenoyltrifluoroacetone 350-03-8, 3-Acetylpyridine 387-46-2, 2,6-Dihydroxybenzaldehyde 452-58-4, 2,3-Diaminopyridine 458-36-6, Coniferylaldehyde 480-66-0 486-25-9, 9-Fluorenone 487-70-7, 2,4,6-Trihydroxybenzaldehyde 487-89-8, 1H-Indole-3-carboxaldehyde 488-87-9, 2,5-Dimethylresorcin 490-78-8 491-38-3, Chromone 491-67-8, 5,6,7-Trihydroxyflavone 496-15-1, Indoline 496-73-1, 4-Methylresorcin 498-02-2 498-94-2, Piperidine-4-carboxylic acid 498-95-3, Piperidine-3-carboxylic acid 500-22-1, 3-Pyridinaldehyde 504-15-4 504-17-6, Thiobarbituric acid 504-24-5, 4-Aminopyridine 520-36-5, 4',5,7-Trihydroxyflavone 525-82-6, Flavone 528-21-2 528-75-6, 2,4-Dinitrobenzaldehyde 533-31-3, 3,4-Methylenedioxyphe nol 533-73-3, Hydroxyhydroquinone 535-75-1, Piperidine-2-carboxylic acid 535-87-5, 3,5-Diaminobenzoic acid 537-65-5, 4,4'-Diaminodiphenylamine 548-83-4, 3,5,7-Trihydroxyflavone 552-89-6, 2-Nitrobenzaldehyde 553-86-6, 2-Coumaranone 555-16-8, 4-Nitrobenzaldehyde, biological studies 570-24-1, 6-Nitro-o-toluidine 574-19-6 577-56-0 577-85-5, 3-Hydroxyflavone 578-66-5, 8-Aminoquinoline 579-72-6, 2-Dimethylaminobenzaldehyde 580-17-6, 3-Aminoquinoline 580-22-3, 2-Aminoquinoline 582-17-2, 2,7-Dihydroxynaphthalene 586-89-0 591-27-5, 3-Aminophenol 591-31-1, 3-Methoxybenzaldehyde 603-81-6, 2,3-Diaminobenzoic acid 605-59-4, 1-Ethyl-4-methylquinolinium iodide 606-23-5, 1H-Indene-1,3(2H)-dione 606-31-5, 2,6-Dinitrobenzaldehyde 606-55-3, 1-Ethyl-2-methylquinolinium iodide 606-57-5, 2-Amino-1-nitronaphthalene 608-08-2, 3-Indoxylacetate 608-25-3, 2-Methylresorcin 608-97-9, Pentaaminobenzene 610-74-2, 2,5-Diaminobenzoic acid 610-81-1, 4-Amino-3-nitrophenol 610-99-1 611-03-0, 2,4-Diaminobenzoic acid 611-09-6, 5-Nitroisatin 611-98-3, 4,4'-Diaminobenzophenone 611-99-4, 4,4'-Dihydroxybenzophenone 613-45-6, 2,4-Dimethoxybenzaldehyde 613-69-4, 2-Ethoxybenzaldehyde 614-16-4, Benzoylacetonitrile 615-66-7, 2-Chloro-p-phenylenediamine 615-71-4, 1,2,4-Triaminobenzene 616-45-5, Pyrrolidone 616-47-7, 1-Methylimidazole 619-05-6, 3,4-Diaminobenzoic acid 621-59-0, 3-Hydroxy-4-methoxybenzaldehyde 621-96-5, 4,4'-Diaminostilbene 623-30-3 626-64-2, 4-Hydroxypyridine 636-25-9, 2,5-Diaminophenol 673-22-3, 2-Hydroxy-4-methoxybenzaldehyde 698-63-5, 5-Nitrofurfural, biological studies 699-83-2 703-80-0, 3-Acetylindole 704-13-2, 3-Hydroxy-4-nitrobenzaldehyde 708-06-5, 2-Hydroxy-1-naphthaldehyde 711-79-5 712-97-0, 6-Nitropiperonal 779-90-8, 1,3,5-Triacetylbenzene 830-74-0, 1-Allylisatin 830-79-5, 2,4,6-Trimethoxybenzaldehyde 832-58-6, 2,4,6-Trimethoxyacetophenone 872-85-5, 4-Pyridinecarboxaldehyde 873-74-5, 4-Aminobenzonitrile 876-87-9, 1,2-Dimethylquinolinium iodide 932-16-1, 1-Methyl-2-acetylpyrrole 934-22-5, 5-Aminobenzimidazole 943-88-4, 4-Methoxybenzylidene acetone 950-81-2 1004-74-6, 2,4,5,6-Tetraaminopyrimidine 1004-75-7, 4-Hydroxy-2,5,6-triaminopyrimidine 1009-61-6, 1,4-Diacetylbenzene 1080-12-2, 4-Hydroxy-3-methoxybenzylidene acetone 1080-74-6 1121-60-4, 2-Pyridinaldehyde 1122-54-9, 4-Acetylpyridine 1122-62-9, 2-Acetylpyridine 1123-55-3, 7-Aminobenzothiazole 1123-93-9, 5-Aminobenzothiazole 1125-60-6, 5-Aminoisquinoline 1136-86-3 1137-42-4, 4-Hydroxybenzophenone 1143-38-0, 1,8-Dihydroxyanthrone

1143-72-2, 2,3,4-Trihydroxybenzophenone 1192-58-1 1194-98-5,  
 2,5-Dihydroxybenzaldehyde 1197-55-3, 4-Aminophenyl acetic acid  
 1199-59-3, 4-Dimethylamino-2-methylbenzaldehyde 1204-86-0,  
 4-Morpholinobenzaldehyde 1424-66-4, 2-Chloro-4-dimethylaminobenzaldehyde  
 1450-75-5 1455-77-2, 3,5-Diamino-1,2,4-triazole 1466-88-2 1470-79-7,  
 2,4,4'-Trihydroxybenzophenone 1483-97-2, 3,6-Diacetyl-9-ethylcarbazole  
 1484-05-5, 3-Acetyl-9-methylcarbazole 1504-76-3 1571-72-8,  
 3-Amino-4-hydroxybenzoic acid 1734-79-8 1820-80-0, 3-Aminopyrazole  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl  
 derivs. of aryl and heteroaryl compds.)

IT 1874-22-2 1971-81-9, 4-Dimethylamino-1-naphthaldehyde 2058-74-4,  
 1-Methylisatin 2089-78-3 2103-57-3, 2,3,4-Trimethoxybenzaldehyde  
 2124-31-4 2144-08-3, 2,3,4-Trihydroxybenzaldehyde 2233-18-3,  
 4-Hydroxy-3,5-dimethylbenzaldehyde 2291-40-9 2374-03-0,  
 4-Amino-3-hydroxybenzoic acid 2478-38-8 2539-53-9,  
 4-Ethoxy-3-hydroxybenzaldehyde 2654-52-6, 2,3-Dimethylbenzothiazolium-p-  
 toluene sulfonate 2688-48-4, 5-Hydroxy-2-coumaranone 2688-49-5,  
 2(3H)-Benzofuranone, 6-hydroxy- 2785-06-0, 2,3-Dimethylbenzothiazolium  
 iodide 2835-77-0, 2-Aminobenzophenone 2835-95-2, 2-Methyl-5-  
 aminophenol 2835-98-5 2835-99-6, 4-Amino-3-methylphenol 2871-01-4,  
 HC Red 3 2887-61-8, 2-Hydroxybutyrophenone 3011-34-5,  
 4-Hydroxy-3-nitrobenzaldehyde 3119-93-5, 3-Ethyl-2-methylbenzothiazolium  
 iodide 3131-52-0, 5,6-Dihydroxyindole 3158-63-2, 1,3-  
 Dimethylthiobarbituric acid 3160-35-8, 4-Hydroxybenzylidene acetone  
 3160-37-0 3167-49-5, 6-Aminonicotinic acid 3198-32-1D, Benzene  
 sulfonate, quaternary ammonium salts 3204-61-3, 1,2,4,5-  
 Tetraaminobenzene 3215-37-0, 3-Acetylcarbazole 3240-72-0,  
 2,4-Dihydroxy-5,6-diaminopyrimidine 3342-78-7, 2-Aminophenylacetic acid  
 3392-97-0, 2,6-Dimethoxybenzaldehyde 3433-54-3, 6-Nitroisatin  
 3565-42-2, Quinisatin 3769-62-8, Gallion 4181-05-9,  
 4-Diphenylaminobenzaldehyde 4318-76-7, 2,5-Diaminopyridine 4331-29-7,  
 7-Aminobenzimidazole 4335-90-4, 3-Benzylidene-2,4-pentanedione  
 4363-93-3, 4-Quinolinecarboxaldehyde 4444-26-2, Hexaaminobenzene  
 4460-86-0, 2,4,5-Trimethoxybenzaldehyde 4928-43-2, 2-Dimethylamino-5-  
 aminopyridine 4940-39-0, Chromone-2-carboxylic acid 5007-67-0,  
 3,3',4,4'-Tetraaminobenzophenone 5099-39-8, 2-[2-  
 (Diethylamino)ethylamino]-5-nitroaniline 5131-58-8 5192-03-0,  
 5-Aminoindole 5192-04-1, 7-Aminoindole 5192-23-4, 4-Aminoindole  
 5217-47-0, 1,3-Diethylthiobarbituric acid 5260-37-7,  
 3-Ethyl-2-methylbenzoxazolium iodide 5274-70-4, 2-Hydroxy-3-  
 nitrobenzaldehyde 5307-02-8, 2,5-Diaminoanisole 5307-14-2,  
 1,4-Diamino-2-nitrobenzene 5318-27-4, 6-Aminoindole 5345-47-1,  
 2-Aminonicotinic acid 5392-12-1, 2-Methoxy-1-naphthaldehyde 5416-80-8  
 5418-63-3, 1,2,3,3-Tetramethyl-3H-indolium iodide 5432-53-1,  
 4-Dimethylaminobenzylidene acetone 5434-20-8, 3-Aminophthalic acid  
 5434-21-9 5466-88-6, 2H-1,4-Benzoxazin-3(4H)-one 5551-11-1,  
 4-Chloro-2-nitrobenzaldehyde 5556-84-3, 2,3,5-Trimethoxybenzaldehyde  
 5556-86-5 5650-41-9, 3-Hydroxypropiophenone 5679-13-0,  
 2-Benzylidenecyclopantanone 5682-83-7, 2-Benzylidenecyclohexanone  
 5718-83-2, Rhodanine-3-acetic acid 5850-35-1, Acid blue 29 5910-23-6  
 5959-52-4, 3-Amino-2-naphthoic acid 6051-53-2, 2-Hydroxybenzylidene  
 acetone 6201-65-6, 2-Chlororesorcin 6203-18-5 6247-27-4, Mordant  
 brown 4 6259-50-3, 6-Dimethylamino-4-hydroxy-2-naphthalene sulfonic acid  
 6271-44-9, 1,2,3-Trimethylquinoxalinium iodide 6322-56-1,  
 4-Hydroxy-3-nitroacetophenone 6327-79-3 6358-09-4,  
 2-Amino-6-chloro-4-nitrophenol 6361-22-4, 2-Chloro-6-nitrobenzaldehyde  
 6399-72-0, 6-Amino-7-hydroxynaphthalene-2-sulfonic acid 6628-04-2,  
 4-Aminoquinaldine 6628-86-0, 5-Chloro-2-nitrobenzaldehyde 6633-46-1

6634-82-8, 4-Amino-4'-nitrostilbene-2,2'-disulfonic acid disodium salt  
 6635-20-7, 5-Nitrovanillin 6781-42-6, 1,3-Diacetylbenzene 6967-12-0,  
 6-Aminoindazole 7218-02-2 7311-34-4, 3,5-Dimethoxybenzaldehyde  
 7313-70-4, 5-Sulfo-isatin 7336-20-1, Benzenesulfonic acid,  
 2,2'-(1,2-ethenediyl)bis[5-amino-, disodium salt 7429-90-5D, Aluminum,  
 salts 7439-89-6D, Iron, salts 7439-93-2D, Lithium, salts 7439-95-4D,  
 Magnesium, salts 7439-96-5D, Manganese, salts 7440-09-7D, Potassium,  
 derivs. 7440-23-5D, Sodium, salts 7440-24-6D, Strontium, salts  
 7440-39-3D, Barium, salts 7440-48-4D, Cobalt, salts 7440-50-8D,  
 Copper, salts 7440-66-6D, Zinc, salts 7440-70-2D, Calcium, salts  
 7570-45-8 7575-35-1, N,N-Bis(2-hydroxyethyl)-p-phenylenediamine  
 7722-84-1, Hydrogen peroxide, biological studies 7749-47-5,  
 2-Amino-4-methoxy-6-methylpyrimidine 7768-28-7, 2-(2-Hydroxyethyl)phenol  
 7770-45-8, 4-Hydroxy-1-naphthaldehyde 10031-82-0, 4-Ethoxybenzaldehyde  
 10040-98-9, 4-(1-Imidazolyl)benzaldehyde 10041-06-2 10111-08-7,  
 1H-Imidazole-2-carboxaldehyde 10173-66-7 10182-90-8D,  
 2-Formyl-1-methylpyridinium, salts 10338-57-5, 4-Piperidinobenzaldehyde  
 10342-85-5 10472-94-3 10472-95-4 13066-97-2 13441-40-2D, salts  
 13505-39-0, 3-Hydroxybutyrophenone 13669-42-6, 3-Quinolinecarboxaldehyde  
 13754-19-3, 4,5-Diaminopyrimidine 14268-66-7, 3,4-Methylenedioxaniline  
 14338-36-4, 3-Aminophenyl acetic acid 14501-66-7 14797-73-0D,  
 Perchlorate, quaternary ammonium salts 14808-79-8D, Sulfate, quaternary  
 ammonium salts 14874-70-5D, Tetrafluoroborate, quaternary ammonium salts  
 14933-76-7, 3-Ethyl-2-methylbenzothiazolium-p-toluenesulfonate  
 15174-69-3, 4-Hydroxy-3-methylbenzaldehyde 15201-05-5D, quaternary  
 ammonium salts 15971-29-6, 4-Methoxy-1-naphthaldehyde 16053-58-0D,  
 quaternary ammonium salts 16082-33-0, 3,5-Diaminopyrazole 16214-27-0,  
 1H-Indene-1,2(3H)-dione 16588-34-4, 4-Chloro-3-nitrobenzaldehyde  
 16634-88-1, 5-Bromo-3-nitrosalicylaldehyde 16722-51-3D, p-Toluene  
 sulfonate, quaternary ammonium salts 16859-86-2, 1,4-Dimethylquinolinium  
 iodide 16867-03-1, 2-Amino-3-hydroxypyridine 16887-00-6D, Chloride,  
 quaternary ammonium salts 17028-61-4, 2-Hydroxy-3-methoxy-5-  
 nitrobenzaldehyde 17422-74-1, Chromone-3-aldehyde 17630-76-1,  
 5-Chloroisatin 17672-22-9 17754-90-4, 4-Diethylamino-2-  
 hydroxybenzaldehyde 17792-58-4 18073-18-2 18278-34-7,  
 4-Hydroxy-2-methoxybenzaldehyde 19005-93-7, 1H-Indole-2-carboxaldehyde  
 19012-02-3, 1-Methyl-3-acetylindole 19012-03-4 19335-11-6,  
 5-Aminoindazole 19735-89-8 20048-92-4, 1-Ethyl-2-methylquinolinium-p-  
 toluenesulfonate 20103-09-7, 2,5-Dichloro-p-phenylenediamine  
 20357-25-9, 4,5-Dimethoxy-2-nitrobenzaldehyde 20461-54-5D, Iodide,  
 quaternary ammonium salts 21228-90-0D, quaternary ammonium salts  
 21240-56-2 22080-96-2, 4-Hydroxy-2,6-dimethoxybenzaldehyde 22411-59-2  
 22525-43-5 22715-34-0, 2-Hydroxy-4,5,6-triaminopyrimidine 22924-15-8,  
 3-Ethoxybenzaldehyde 22948-94-3 23244-87-3, 2,4,5-Triaminopyridine  
 23894-07-7 24677-78-9, 2,3-Dihydroxybenzaldehyde 24905-87-1, HC Red 7  
 24959-67-9D, Bromide, quaternary ammonium salts 25128-32-9,  
 5-Carboxyisatin 25394-13-2, Benzenesulfonic acid, 2,2'-(1,2-  
 ethenediyl)bis[5-amino-, sodium salt 26153-38-8,  
 3,5-Dihydroxybenzaldehyde 26216-16-0 27394-81-6, 5-(4-  
 Methoxyphenyl)penta-2,4-dienal 27841-29-8, 1,2,3-Benzenetriol,  
 4,6-diamino- 28020-38-4, 2,3-Diamino-6-methoxypyridine 28746-58-9  
 29539-03-5, 5,6-Dihydroxyindoline 29705-39-3 31680-07-6,  
 4-Methyl-3-nitrobenzaldehyde 31835-64-0, 3-Amino-3'-nitrobiphenyl  
 32479-73-5, 1,3-Diethylbarbituric acid 33709-29-4 33985-71-6  
 35094-87-2, 2,4,5-Trihydroxybenzaldehyde 36075-79-3D, salts 36518-76-0  
 37181-39-8D, Trifluoromethane sulfonate, quaternary ammonium salts  
 37705-82-1, 2,4-Diaminobenzonitrile 39755-03-8, 4-Hydroxybutyrophenone  
 39755-95-8, 5-Methoxyisatin 39910-98-0 41438-18-0,  
 4-Hydroxy-2-methylbenzaldehyde 41602-56-6, 4-Dimethylamino-2-

hydroxybenzaldehyde 42426-35-7 42454-06-8, 5-Hydroxy-2-nitrobenzaldehyde 42758-54-3, 4-Nitro-1-naphthaldehyde 42952-29-4  
 43057-77-8, 4-Ethoxy-2-hydroxybenzaldehyde 45791-64-8D,  
 4-Acetyl-1-methylpyridinium, salts 46791-37-1D, salts 46881-39-4D,  
 salts 50379-28-7 50610-28-1 50899-59-7, 1-Hydroxymethylisatin  
 51387-92-9 51980-54-2, 4-Pyrrolidinobenzaldehyde 52943-88-1,  
 1-Phenyl-3-methyl-4,5-diaminopyrazole 53055-05-3, 3-Methoxy-2-nitrobenzaldehyde 54424-26-9 54424-27-0 54424-29-2 54628-24-9D,  
 salts 55047-63-7 55302-96-0, 2-Methyl-5-(2-hydroxyethylamino)phenol  
 55949-38-7D, Hydroxypyrimidine, derivs. 55952-56-2, 1-Ethyl-4-methylquinolinium-p-toluenesulfonate 56932-44-6, HC Yellow 5  
 58028-76-5, 2-Morpholinobenzaldehyde 58380-40-8, 4-Hydroxy-2,3-dimethylbenzaldehyde 58480-17-4 60126-36-5, 3-Ethyl-2-methylbenzoxazolium-p-toluene sulfonate **61078-47-5**  
**61078-48-6** 61224-35-9, 1,2,3,3-Tetramethyl-3H-indolium-p-toluene sulfonate

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and carbonyl derivs. of aryl and heteroaryl compds.)

IT 61693-42-3, 3-Amino-2,4-dichlorophenol 62378-72-7 62496-02-0,  
 2-Methylamino-4,5,6-triaminopyrimidine 63053-27-0 63149-33-7  
 63969-46-0, Bis(5-amino-2-hydroxyphenyl)methane 64168-39-4 64993-07-3,  
 5-Amino-6-nitrobenzo-1,3-dioxole 65192-34-9 65192-36-1 65443-86-9  
 67608-58-6, 4-Amino-2-hydroxybenzonitrile 67608-59-7 67805-13-4  
 69471-05-2, 4-Hydroxy-2,3-dimethoxybenzaldehyde 69825-83-8,  
 6-Nitro-2,5-diaminopyridine 70484-29-6 70547-87-4,  
 4-Hydroxy-2,6-dimethylbenzaldehyde 70643-19-5, 2,4-Diaminophenoxyethanol  
 71134-97-9 74186-01-9, 2,3,5-Trihydroxybenzaldehyde 75965-68-3  
 75965-71-8 75965-84-3 77484-77-6, 3-Amino-6-methylamino-2-nitropyridine 79352-72-0, 2-Aminomethyl-4-aminophenol 79459-15-7,  
 3,5-Diethoxy-4-hydroxybenzaldehyde 80749-72-0, 4-Hydroxy-2,5-dimethoxybenzaldehyde 81892-72-0, 1,3-Bis(2,4-diaminophenoxy)propane  
 82576-75-8, HC Violet 1 83072-44-0, 2-Ethoxy-4-hydroxybenzaldehyde  
 83073-86-3, 5-(4-Dimethylaminophenyl)penta-2,4-dienal 83763-47-7,  
 2-Amino-4-(2-hydroxyethylamino)anisole 84540-47-6, 2,6-Dihydroxy-3,4-dimethylpyridine 84540-50-1, 3-Amino-2-chloro-6-methylphenol  
 84562-48-1, 4-Dimethylamino-2-methoxybenzaldehyde 85231-15-8,  
 4-Hydroxy-2,5-dimethylbenzaldehyde 85561-52-0, 1-Phenyl-4,5-diaminopyrazole 85679-78-3, 2,6-Dimethoxy-3,5-diaminopyridine  
 85926-99-4, 4-Hydroxyindoline 88985-64-2, 1,2-Dihydropyrimidine  
 90134-10-4, 4-Dibutylaminobenzaldehyde 90817-34-8, 2-Methylamino-3-amino-6-methoxypyridine 91902-53-3 93841-24-8, 2-(2,5-Diaminophenyl)ethanol  
 93923-57-0 95576-89-9, HC Red 10 96516-29-9, 2-Fluoro-3-nitrobenzaldehyde 101582-21-2 104202-54-2 104333-09-7,  
 2-Hydroxymethyl-4-aminophenol 104903-49-3 110102-86-8,  
 2-Methyl-5-amino-4-chlorophenol 110952-46-0 114260-09-2 114402-54-9,  
 1,3-Bis(4-aminophenylamino)propane 115423-85-3 115423-86-4,  
 1,3-Diamino-2,4-dimethoxybenzene 117907-43-4 122438-74-8D, salts  
 122455-85-0, 5-Amino-4-fluoro-2-methylphenol 126335-41-9,  
 2,5-Diaminophenetole 126335-43-1, 2-(2,5-Diaminophenoxy)ethanol  
 128729-30-6, 1,3-Bis[N-(4-aminophenyl)-2-hydroxyethylamino]-2-propanol  
 129697-50-3 130133-55-0 130582-56-8, 1,3-Bis(4-aminophenylamino)-2-propanol 137290-78-9, 5-Amino-4-methoxy-2-methylphenol 137290-86-9,  
 5-(2-Hydroxyethylamino)-4-methoxy-2-methylphenol 141614-04-2  
 141614-05-3 141922-20-5 144284-89-9 145092-00-8,  
 3-Amino-5-hydroxypyrazole 146658-65-3, 5-(3-Hydroxypropylamino)-2-methylphenol 147025-37-4D, salts 149330-25-6 149833-00-1D, salts  
 155601-17-5, 1-(2-Hydroxyethyl)-4,5-diaminopyrazole 159661-40-2  
 159661-41-3 159661-42-4, 2,5-Dihydroxy-4-morpholinoaniline 159661-43-5

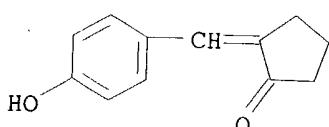
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 2,4-dienal 211872-02-5 215517-65-0 215517-66-1 215517-68-3  
 220118-56-9, 1,2,3,3-Tetramethyl-3H-indolium-methane sulfonate 223397-50  
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 260980-92-5 260980-93-6 260980-94-7 260980-95-8 260980-96-9  
 260980-97-0 260980-98-1 260980-99-2 260981-00-8 260981-02-0,  
 N-(2-Methoxyethyl)-p-phenylenediamine 260981-03-1, 2,3-Dichloro-p-  
 phenylenediamine 278807-62-8D, salts 278807-63-9D, salts  
 278807-64-0D, salts 278807-65-1D, salts 278807-66-2D, salts  
 278807-67-3D, salts 278807-68-4D, salts 278807-69-5D, salts  
 278807-70-8D, salts 278807-71-9D, salts 278807-72-0D, salts  
 278807-73-1D, salts 278807-74-2D, salts 278807-75-3D, salts  
 278807-76-4D, salts 278807-77-5D, salts 278807-78-6D, salts  
 278807-79-7D, salts 278807-80-0D, salts 279214-38-9 313219-61-3  
**325853-04-1 325853-08-5 325853-09-6**  
 341989-73-9, 2,6-Diethoxy-4-hydroxybenzaldehyde 346593-13-3,  
 3-Amino-4-nitro-acenaphthene 375856-52-3 380897-75-6 503853-81-4  
 503853-94-9 503854-79-3D, salts 503854-80-6D, salts 503854-82-8D,  
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 669057-82-3 669057-83-4 669057-84-5 669057-86-7 669057-88-9  
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 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and  
 carbonyl derivs. of aryl and heteroaryl compds.)

IT   **61078-47-5 61078-48-6 325853-04-1**  
**325853-08-5 325853-09-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 1,2-dihydropyrimidine derivs. and  
 carbonyl derivs. of aryl and heteroaryl compds.)

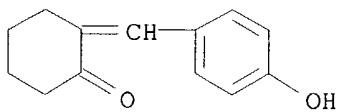
RN   61078-47-5 HCPLUS

CN   Cyclopentanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)

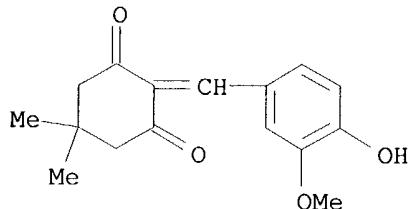


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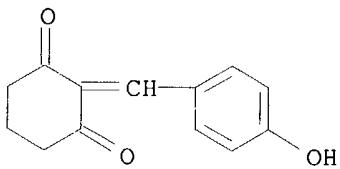
CN   Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



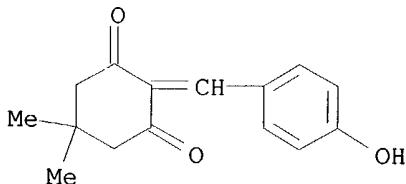
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CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



RN 325853-08-5 HCAPLUS  
CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



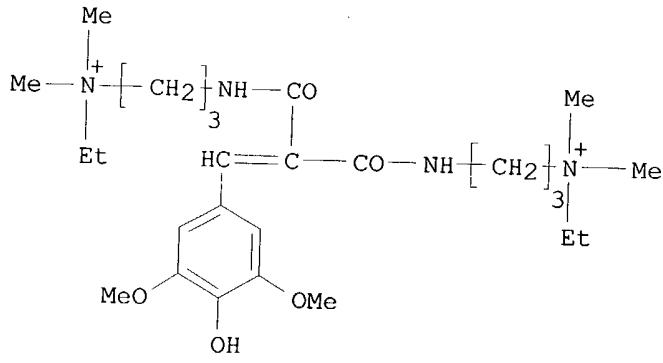
RN 325853-09-6 HCAPLUS  
CN 1,3-Cyclohexanedione, 2-[(4-hydroxyphenyl)methylene]-5,5-dimethyl- (9CI) (CA INDEX NAME)



L76 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:818390 HCAPLUS  
DN 139:327935  
TI Photostable cationic organic sunscreen compounds with antioxidant properties and hair compositions containing them  
IN Chaudhuri, Ratan K.  
PA Merck Patent G.m.b.H., Germany  
SO PCT Int. Appl., 49 pp.  
CODEN: PIXXD2

DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003084920	A1	20031016	WO 2003-EP3182	20030327
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003198607	A1	20031023	US 2002-119025	20020410
	US 6699463	B2	20040302		
PRAI	US 2002-119025	A	20020410		
OS	MARPAT 139:327935				
GI					



2. EtO<sub>2</sub>—SO<sub>3</sub><sup>-</sup>

AB Compds. such as I and similar compds. were prepared Hair care formulations and shampoos were prepared containing I and similar compds. Methods for protecting hair and substrates such as polymers, textiles, fabrics, leathers and paints with the compds. are discussed.  
 IC ICM C07C235-80  
 ICS C07C255-41; C07C235-34; A61K007-42  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 25  
 ST cinnamide quaternary ammonium deriv prepn sunscreen hair  
 IT Hair preparations  
 Shampoos  
 Sunscreens  
 (photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)  
 IT Quaternary ammonium compounds, biological studies

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)

IT 612493-37-5P 612493-39-7P 612493-41-1P  
612493-43-3P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)

IT 86-81-7, 3,4,5-T trimethoxybenzaldehyde 105-56-6, Ethyl cyanoacetate  
51323-71-8, Dodecyl mesylate

RL: RCT (Reactant); RACT (Reactant or reagent)  
(photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)

IT 134-96-3P, Syringaldehyde 14962-03-9P 15029-09-1P 612493-44-4P  
612493-45-5P

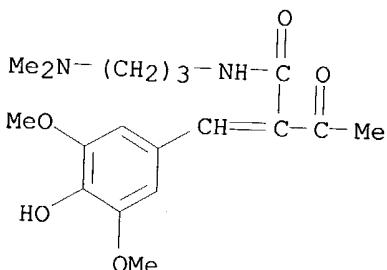
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)

IT 612493-37-5P 612493-39-7P 612493-41-1P  
612493-43-3P

RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(photostable cationic organic sunscreen compds. with antioxidant properties and hair compns. containing them)

RN 612493-37-5 HCPLUS

CN Butanamide, N-[3-(dimethylamino)propyl]-2-[(4-hydroxy-3,5-dimethoxyphenyl)methylene]-3-oxo- (9CI) (CA INDEX NAME)



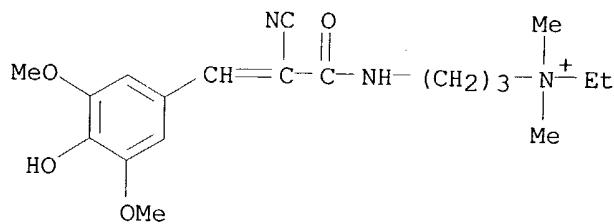
RN 612493-39-7 HCPLUS

CN 1-Propanaminium, 3-[[2-cyano-3-(4-hydroxy-3,5-dimethoxyphenyl)-1-oxo-2-propenyl]amino]-N-ethyl-N,N-dimethyl-, ethyl sulfate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 612493-38-6

CMF C19 H28 N3 O4



CM 2

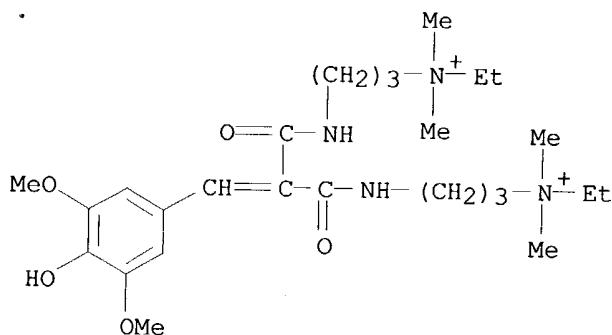
CRN 48028-76-8  
CMF C2 H5 O4 S

Et-O-SO3-

RN 612493-41-1 HCPLUS  
CN 1-Propanaminium, 3,3'-[2-[(4-hydroxy-3,5-dimethoxyphenyl)methylene]-1,3-dioxo-1,3-propanediyl]diimino]bis[N-ethyl-N,N-dimethyl-, bis(ethyl sulfate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 612493-40-0  
CMF C26 H46 N4 O5



CM 2

CRN 48028-76-8  
CMF C2 H5 O4 S

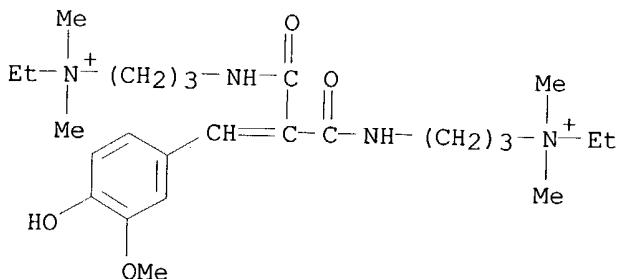
Et-O-SO3-

RN 612493-43-3 HCPLUS  
CN 1-Propanaminium, 3,3'-[2-[(4-hydroxy-3-methoxyphenyl)methylene]-1,3-dioxo-1,3-propanediyl]diimino]bis[N-ethyl-N,N-dimethyl-, bis(ethyl sulfate)

(salt) (9CI) (CA INDEX NAME)

CM 1

CRN 612493-42-2  
CMF C25 H44 N4 Q4



CM 2

CRN 48028-76-8  
CMF C2 H5 O4 S

$$\text{Et}-\text{O}-\text{SO}_3^-$$

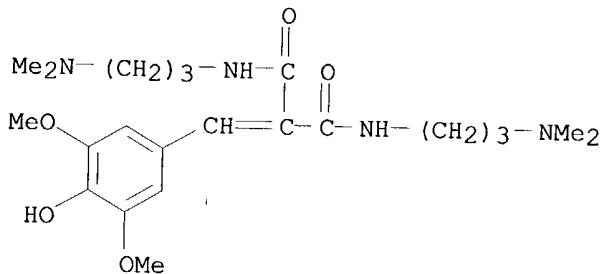
IT 612493-45-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(photostable cationic organic sunscreen compds. with antioxidant properties and **hair** compns. containing them)  
432-45-5

RN 612493-45-5 HCAPLUS

CN Propanediamide, N,N'-bis[3-(dimethylamino)propyl]-2-[(4-hydroxy-3,5-dimethoxyphenyl)methylene]-(9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:282163 HCAPLUS

DN 138:292390

TI Oxidative hair dyes containing 2-arylidene-3-indolinone compounds

IN Moeller, Hinrich; Oberkobusch, Doris; Hoeffkes, Horst  
 PA Henkel Kommanditgesellschaft Auf Aktien, Germany  
 SO Eur. Pat. Appl., 20 pp.  
 CODEN: EPXXDW

DT Patent  
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1300135	A1	20030409	EP 2002-21430	20020925
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK DE 10148846				
PRAI	DE 2001-10148846	A1	20030410	DE 2001-10148846	20011004
OS	MARPAT 138:292390	A	20011004		

AB The invention concerns oxidative hair dyes containing 2-arylidene-3-indolinone compds. and other components selected from the group of (a) primary or secondary aryl amines, hydroxy compds., N-containing heteroaryls; (b) amino acids; (c) CH-acids. Direct dyes and color intensifiers can be added. Thus in a hair dyeing experiment 5 mmol 4-(3-oxo-2-indolinylidenemethyl)-1-methylpyridinium iodide and 5 mmol 2,5-diaminotoluene H<sub>2</sub>SO<sub>4</sub> were mixed with 5 mmol sodium acetate in 50 mL water; pH 6 was set; intense violet red color was obtained.

IC ICM A61K007-13  
 ICS D06P003-14

CC 62-3 (Essential Oils and Cosmetics)  
 ST oxydative hair dye arylidene indolinone  
 IT Surfactants

IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

IT Amines, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (aryl, secondary; oxydative hair dyes containing 2-arylidene-3-indolinone compds.)

IT Dyes  
 (direct; oxydative hair dyes containing 2-arylidene-3-indolinone compds.)

IT Hair preparations  
 (dyes, oxidative; oxydative hair dyes containing 2-arylidene-3-indolinone compds.)

IT Hair preparations

IT Surfactants  
 (nonionic; oxydative hair dyes containing 2-arylidene-3-indolinone compds.)

IT Amino acids, biological studies  
 Heterocyclic compounds  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

IT Surfactants  
 (oxidative hair dyes containing 2-arylidene-3-indolinone compds.)

IT 50-21-5D, salts 59-48-3 59-92-7, biological studies 60-18-4,  
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64-18-6D, Formic acid, salts 64-19-7D, Acetic acid, salts 65-49-6

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71-00-1, L-Histidine, biological studies 73-22-3, L-Tryptophan,

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 2-Aminopyridine 533-31-3, 1,3-Benzodioxol-5-ol 533-73-3,  
 1,2,4-Benzenetriol 535-75-1, 2-Piperidinecarboxylic acid 535-87-5  
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 578-66-5, 8-Quinolinamine 580-17-6, 3-Quinolinamine 580-22-3,  
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 606-23-5, Indan-1,3-dione 606-55-3 606-57-5 608-08-2 608-25-3  
 608-97-9, Benzenepentamine 610-74-2 610-81-1 611-03-0 611-98-3  
 614-16-4 615-50-9 615-66-7 615-71-4, 1,2,4-Benzenetriamine  
 616-45-5, 2-Pyrrolidinone 616-47-7 619-05-6 621-96-5 626-64-2,  
 4-Pyridinol 636-25-9 873-74-5 876-87-9 934-22-5,  
 1H-Benzimidazol-5-amine 1004-74-6, Pyrimidinetetramine 1004-75-7  
 1080-74-6 1123-55-3, 7-Benzothiazolamine 1123-93-9,  
 5-Benzothiazolamine 1125-60-6, 5-Isoquinolinamine 1197-55-3  
 1455-77-2, 1H-1,2,4-Triazole-3,5-diamine 1571-72-8 1820-80-0,  
 1H-Pyrazol-3-amine 2654-52-6 2785-06-0 2835-95-2 2835-98-5  
 2835-99-6 2871-01-4 3131-52-0, 1H-Indole-5,6-diol 3158-63-2  
 3167-49-5 3204-61-3, 1,2,4,5-Benzenetetramine 3240-72-0 3260-61-5D,  
 3-Indolinone, 2-arylidene derivs. 3342-78-7 3468-11-9 3769-62-8  
 3812-32-6D, Carbonate, salts 4318-76-7, 2,5-Pyridinediamine 4331-29-7,  
 1H-Benzimidazol-4-amine 4444-26-2, Benzenehexamine 4928-43-2  
 5007-67-0 5099-39-8 5131-58-8 5192-03-0, 1H-Indol-5-amine  
 5192-04-1, 1H-Indol-7-amine 5192-23-4, 1H-Indol-4-amine 5217-47-0  
 5307-02-8 5307-14-2 5318-27-4, 1H-Indol-6-amine 5345-47-1  
 5418-63-3, 1,2,3,3-Tetramethyl-3H-indoliumiodide 5434-20-8 5718-83-2  
 5850-35-1 5930-28-9, 4-Amino-2,6-dichlorophenol 5959-52-4 6093-67-0  
 6093-68-1 6201-65-6 6259-50-3 6358-09-4 6399-72-0 6628-04-2  
 6634-82-8 6967-12-0, 1H-Indazol-6-amine 7218-02-2 7336-20-1  
 7429-90-5D, Aluminum, salts 7439-89-6D, Iron, salts 7439-93-2D,  
 Lithium, salts 7439-95-4D, Magnesium, salts 7439-96-5D, Manganese,  
 salts 7440-09-7D, Potassium, salts 7440-23-5D, Sodium, salts  
 7440-24-6D, Strontium, salts 7440-39-3D, Barium, salts 7440-48-4D,

Cobalt, salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc, salts 7440-70-2D, Calcium, salts 7575-35-1 7664-38-2D, Phosphoric acid, salts 7722-84-1, Hydrogen peroxide, biological studies 7749-47-5  
 7768-28-7 10023-74-2D, Valerate, salts 10173-66-7 12236-29-2  
 13066-97-2 13598-36-2D, Phosphonic acid, salts 13754-19-3,  
 4,5-Pyrimidinediamine 14268-66-7, 3,4-Methylenedioxaniline 14338-36-4  
 14798-03-9D, Ammonium, salts 14808-79-8D, Sulfate, salts 16082-33-0,  
 1H-Pyrazole-3,5-diamine 16214-27-0, Indan-1,2-dione 16859-86-2  
 16867-03-1 17672-22-9 19298-14-7 19335-11-6, 1H-Indazol-5-amine  
 20048-92-4 20103-09-7 22525-43-5 22715-34-0

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 2-arylidene-3-indolinone compds.)

IT 23244-87-3, 2,4,5-Pyridinetriamine 23894-07-7 24905-87-1 26216-16-0  
 27074-03-9 27841-29-8 28020-38-4 28141-13-1 29539-03-5  
 29705-39-3 31835-64-0 32479-73-5 36429-85-3 36518-76-0  
 37705-82-1 38172-19-9 39830-75-6 39830-76-7 **39830-77-8**  
 41946-53-6 42952-26-1 50610-28-1 51387-92-9 52943-88-1  
 53277-21-7 54381-16-7 55302-96-0 55949-38-7D, Pyrimidinol, derivs.  
 56216-28-5 56932-44-6 57211-29-7 57211-37-7 58480-17-4  
 61224-35-9 61693-42-3 62496-02-0 63969-46-0 64993-07-3  
 66566-48-1 66635-40-3 67608-58-6 67608-59-7 68305-30-6  
 68391-32-2 70643-19-5 71134-97-9 77484-77-6 79352-72-0  
 80030-92-8 81892-72-0 82576-75-8 83763-47-7 84540-47-6  
 84540-50-1 85561-52-0 85679-78-3 85926-99-4 90335-90-3  
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 114260-09-2 114402-54-9 115423-85-3 115423-86-4 117907-43-4  
 118860-71-2 118860-72-3 118860-74-5 118860-75-6 118860-76-7  
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 130582-56-8 135043-64-0 137290-78-9 137290-86-9 141614-04-2  
 141614-05-3 141922-20-5 145092-00-8 146658-65-3 149330-25-6  
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 503856-17-5 507224-77-3 **507277-71-6** 507277-72-7  
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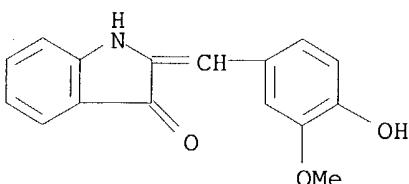
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 2-arylidene-3-indolinone compds.)

IT **39830-77-8 507277-71-6**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (oxidative hair dyes containing 2-arylidene-3-indolinone compds.)

RN 39830-77-8 HCPLUS

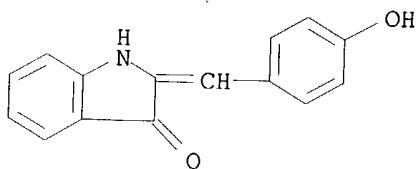
CN 3H-Indol-3-one, 1,2-dihydro-2-[(4-hydroxy-3-methoxyphenyl)methylene]-  
 (9CI) (CA INDEX NAME)



RN 507277-71-6 HCPLUS

CN 3H-Indol-3-one, 1,2-dihydro-2-[(4-hydroxyphenyl)methylene]- (9CI) (CA

INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:278305 HCAPLUS  
DN 138:308932  
TI Hair dyes containing aromatic or heteroaromatic aldehydes and ketones in combination with other dyes and color intensifiers  
IN Moeller, Hinrich; Oberkobusch, Doris  
PA Henkel K.-G.a.A., Germany  
SO Ger. Offen., 20 pp.  
CODEN: GWXXBX

DT Patent  
LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10148847	A1	20030410	DE 2001-10148847	20011004
WO 2003030845	A1	20030417	WO 2002-EP10730	20020925
WO 2003030845	C1	20040115		
W: AU, BR, CA, CN, HU, JP, NO, PL, RU, US, VN				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
EP 1434557	A1	20040707	EP 2002-777201	20020925
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR, BG, CZ, EE, SK				
PRAI DE 2001-10148847	A	20011004		
WO 2002-EP10730	W	20020925		

OS MARPAT 138:308932

AB The invention concerns hair dyes that contain aromatic or heteroarom. aldehydes and ketones and 4-aminopyrazoline-5-one derivs. Further components are selected from the group of primary and secondary aromatic amines, hydroxydes, nitrogen-containing heterocycles, amino acids etc. Thus in a dyeing experiment 5 mmol 4-formyl-1-methylpyridinium benzene sulfonate and 5 mmol 4-aminoantipyrine were mixed and pH 6 was set with sodium hydroxide; an intensive gold-yellow color was obtained.

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

ST hair dye arom heteroarom aldehyde ketone aminoantipyrine  
IT Surfactants

(anionic; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)  
IT Aldehydes, biological studies  
Ketones, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
ketones in (aromatic; hair dyes containing aromatic or heteroarom. aldehydes and combination with other dyes and color intensifiers)

IT Hair preparations  
(dyes; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Oxidizing agents  
(hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Aldehydes, biological studies  
Amines, biological studies  
Caseins, biological studies  
Collagens, biological studies  
Elastins  
Keratins  
Ketones, biological studies  
Proteins  
Quaternary ammonium compounds, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Ketones, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(heteroarom.; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Aldehydes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(heteroaryl; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Surfactants  
(nonionic; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Proteins  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(soybean; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Protein hydrolyzates  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(wheat gluten; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Glutens  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(wheat, hydrolyzates; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT Surfactants  
(zwitterionic; hair dyes containing aromatic or heteroarom. aldehydes and ketones in combination with other dyes and color intensifiers)

IT 56-87-1, L-Lysine, biological studies 59-48-3, Oxindol 59-92-7,  
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 123-30-8 123-31-9, Hydroquinone, biological studies 123-75-1,  
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 142-08-5, 2(1H)-Pyridinone 147-85-3, L-Proline, biological studies  
 149-87-1 149-91-7, biological studies 150-13-0 150-19-6 150-75-4  
 150-76-5 156-81-0, 2,4-Pyrimidinediamine 288-13-1, 1H-Pyrazole  
 288-32-4, 1H-Imidazole, biological studies 288-88-0, 1H-1,2,4-Triazole  
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 2,2'-Pyridil 492-94-4, 2,2'-Furil 498-02-2 498-94-2, Piperidine  
 4-carboxylic acid 498-95-3, Piperidine 3-carboxylic acid 500-22-1,  
 3-Pyridinecarboxaldehyde 504-17-6, Thiobarbituric acid 504-24-5,  
 4-Pyridinamine 504-29-0, 2-Pyridinamine 517-22-6 520-36-5,  
 4',5,7-TriHydroxyFlavone 525-82-6, Flavone 528-21-2 533-31-3,  
 1,3-Benzodioxol-5-ol 533-73-3, Hydroxyhydroquinone 535-75-1,  
 Piperidine 2-carboxylic acid 535-87-5 537-65-5 548-83-4,  
 3,5,7-TriHydroxyFlavone 552-89-6 553-86-6, Cumaranone 555-16-8,  
 biological studies 556-03-6, Tyrosine 570-24-1 574-19-6 577-56-0  
 577-85-5, 3-HydroxyFlavone 578-66-5, 8-Quinolinamine 579-72-6  
 580-17-6, 3-Quinolinamine 580-22-3, 2-Quinolinamine 582-17-2,  
 2,7-Naphthalenediol 586-89-0 591-27-5 603-81-6 606-23-5,  
 1H-Indene-1,3(2H)-dione 606-31-5 606-55-3 606-57-5 608-08-2,  
 3-Indoxyl acetate 610-74-2 610-81-1 611-03-0 611-09-6 611-98-3  
 611-99-4, 4,4'-DiHydroxyBenzophenone 614-82-4 615-66-7 615-71-4,  
 1,2,4-Benzenetriamine 616-45-5, 2-Pyrrolidinone 616-47-7 619-05-6  
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 biological studies 699-83-2 703-80-0 704-13-2 711-79-5 712-97-0  
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 2,4,6-Trimethoxyacetophenone 872-85-5, 4-Pyridinecarboxaldehyde  
 932-16-1 934-22-5, 1H-Benzimidazol-5-amine 943-88-4 950-81-2  
 1004-74-6, Pyrimidinetetramine 1009-61-6 1080-12-2 1121-60-4,  
 2-Pyridinecarboxaldehyde 1122-54-9 1122-62-9 1123-55-3,  
 7-Benzothiazolamine 1123-93-9, 5-Benzothiazolamine 1125-60-6,  
 5-Isoquinolinamine 1136-86-3 1137-42-4, 4-HydroxyBenzophenone  
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 1192-58-1 1197-55-3 1199-59-3 1204-86-0, 4-Morpholinobenzaldehyde  
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 1H-1,2,4-Triazole-3,5-diamine 1466-88-2 1470-79-7,  
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 1571-72-8 1643-19-2 1734-79-8 1820-80-0, 1H-Pyrazol-3-amine  
 1874-22-2 1953-54-4, 1H-Indol-5-ol 1971-81-9 2058-74-4 2124-31-4

2291-40-9 2374-03-0 2380-84-9, 1H-Indol-7-ol 2380-86-1,  
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 28491-52-3 29539-03-5 29705-39-3 31680-07-6 31835-64-0  
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 114682-26-7 115423-86-4 117907-43-4 122438-74-8D, salts of  
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RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyes containing aromatic or heteroarom. aldehydes and ketones  
 in combination with other dyes and color intensifiers)

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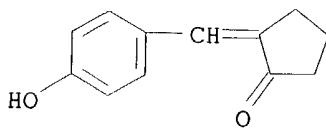
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (hair dyes containing aromatic or heteroarom. aldehydes and ketones in  
 combination with other dyes and color intensifiers)

IT 61078-47-5 61078-48-6

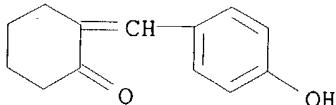
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 (hair dyes containing aromatic or heteroarom. aldehydes and ketones  
 in combination with other dyes and color intensifiers)

RN 61078-47-5 HCPLUS

CN Cyclopentanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



RN 61078-48-6 HCPLUS  
 CN Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



L76 ANSWER 10 OF 18 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:608546 HCPLUS  
 DN 133:198419  
 TI Reduction of hair growth by tyrosine kinase inhibitors  
 IN Henry, James P.; Ahluwalia, Gurpreet S.  
 PA The Gillette Company, USA  
 SO PCT Int. Appl., 17 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English

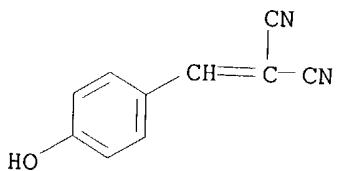
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	US 6121269	A	20000919	US 1999-255063	19990222
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	BR 2000008239	A	20011106	BR 2000-8239	20000218
	EP 1156775	A1	20011128	EP 2000-914636	20000218
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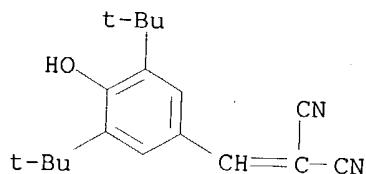
AB Mammalian hair growth is reduced by applying to the skin an inhibitor of protein-tyrosine kinase. A method is described for applying to the skin a composition including an inhibitor of protein-tyrosine kinases in an amount effective to reduce hair growth. The unwanted hair growth which is reduced may be normal hair growth, or hair growth that results from an abnormal or diseased condition. The preferred composition includes at least one inhibitor of protein-tyrosine kinase in a cosmetically and/or dermatol. acceptable vehicle. The composition may be a solid, semi-solid, or liquid. The composition may be, for example, a cosmetic and dermatol. product in

the form of an, for example, ointment, lotion, foam, cream, gel, or hydroalcoholic solution. The composition may also be in the form of a shaving preparation or an aftershave. Human hair follicle growth assays showed that tyrphostin A48, erbstatin, lavendustin A, Me caffeoate, and tyrphostin AG1478 showed the inhibition rate of 40-100 %.

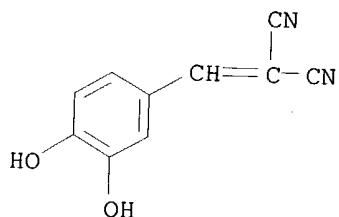
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 CC ICS A61K031-135; A61K031-215; A61K031-395; A61K031-425; A61K031-275  
 ST 62-4 (Essential Oils and Cosmetics)  
 ST tyrosine kinase inhibitor hair growth redn  
 IT Shaving preparations  
     (aftershave; hair growth inhibition by tyrosine kinase inhibitors)  
 IT Cosmetics  
     (depilatories; hair growth inhibition by tyrosine kinase inhibitors)  
 IT Cosmetics  
 Hirsutism  
 Shaving preparations  
     (hair growth inhibition by tyrosine kinase inhibitors)  
 IT Epidermal growth factor receptors  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
     (Uses)  
     (hair growth inhibition by tyrosine kinase inhibitors)  
 IT 80449-02-1, Tyrosine kinase  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
     (Biological study); PROC (Process)  
     (hair growth inhibition by tyrosine kinase inhibitors)  
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 le 3843-74-1, Methyl caffeoate 10083-24-6, Piceatannol  
 10537-47-0 70563-58-5, Herbimycin A 100827-28-9, Erbstatin  
 118409-57-7 118409-58-8 118409-59-9  
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     (hair growth inhibition by tyrosine kinase inhibitors)  
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 144978-82-5 149092-34-2 149092-35-3  
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 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
     (Uses)  
     (hair growth inhibition by tyrosine kinase inhibitors)  
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 CN Propanedinitrile, [(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



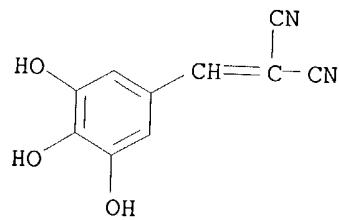
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(9CI) (CA INDEX NAME)



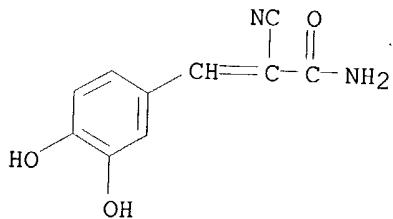
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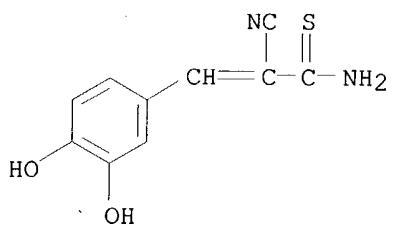
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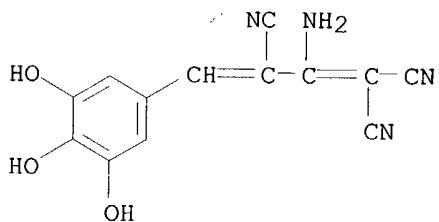
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CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 118409-60-2 HCAPLUS  
CN 2-Propenethioamide, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX  
NAME)

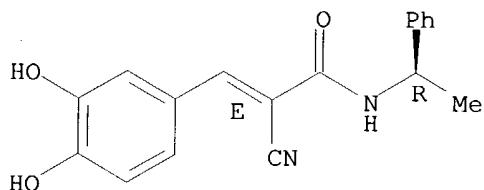


RN 126433-07-6 HCPLUS  
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(9CI) (CA INDEX NAME)

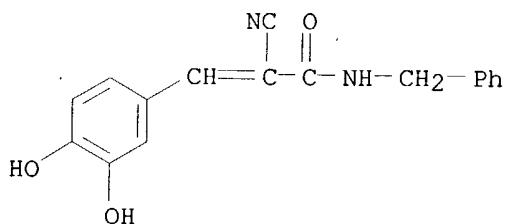


RN 133550-32-0 HCPLUS  
CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-[(1R)-1-phenylethyl]-,  
(2E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



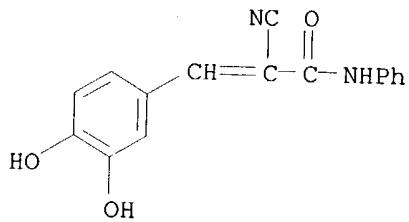
RN 134036-52-5 HCPLUS  
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(CA INDEX NAME)



RN 139087-53-9 HCPLUS

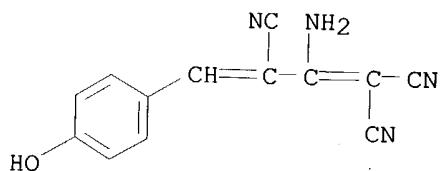
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



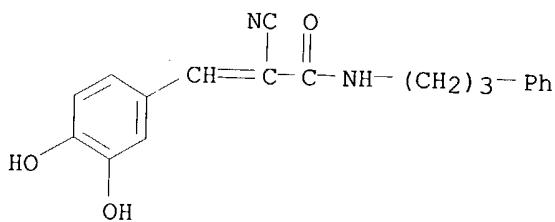
RN 144978-82-5 HCPLUS

CN 1,3-Butadiene-1,1,3-tricarbonitrile, 2-amino-4-(4-hydroxyphenyl)- (9CI)  
(CA INDEX NAME)



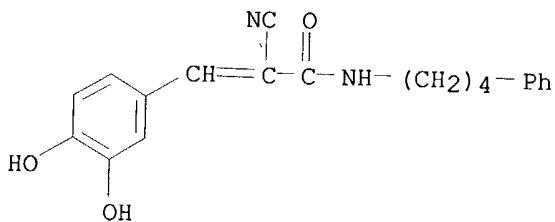
RN 149092-34-2 HCPLUS

CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-(3-phenylpropyl)- (9CI)  
(CA INDEX NAME)



RN 149092-35-3 HCPLUS

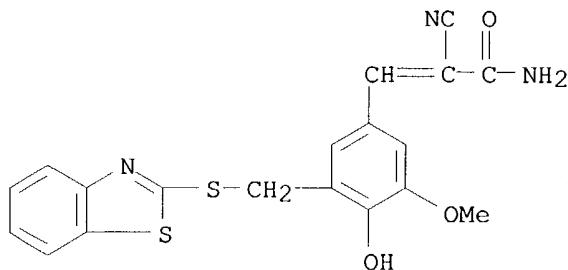
CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-(4-phenylbutyl)- (9CI)  
(CA INDEX NAME)



RN 149092-50-2 HCPLUS

CN 2-Propenamide, 3-[3-[(2-benzothiazolylthio)methyl]-4-hydroxy-5-

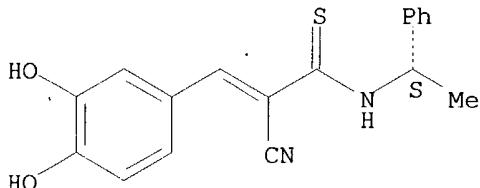
methoxyphenyl]-2-cyano- (9CI) (CA INDEX NAME)



RN 227030-50-4 HCAPLUS

CN 2-Propenethioamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-[ (1S)-1-phenylethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry unknown.



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:753548 HCAPLUS

DN 131:341754

TI Agent and method for temporary coloring of keratin fibers

IN Mettler, Sandra; Goettel, Otto; Pirrello, Aline

PA Wella A.-G., Germany

SO Ger. Offen., 24 pp.

CODEN: GWXXBX

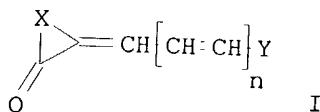
DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19822199	A1	19991118	DE 1998-19822199	19980516
	DE 19822199	C2	20030213		
	WO 9959528	A2	19991125	WO 1999-EP1236	19990226
	WO 9959528	A3	20001109		
	W: BR, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
	PT, SE				
	BR 9906441	A	20000711	BR 1999-6441	19990226
	EP 1041953	A1	20001011	EP 1999-911709	19990226
	EP 1041953	B1	20040707		
	R: AT, CH, DE, ES, FR, GB, IT, LI				
	JP 2002511890	T2	20020416	JP 1999-557358	19990226

AT 270538	E 20040715	AT 1999-911709	19990226
US 2002010969	A1 20020131	US 1999-445747	19991209
US 6494923	B2 20021217		
PRAI DE 1998-19822199	A 19980516		
WO 1999-EP1236	W 19990226		
OS MARPAT 131:341754			
GI			



- AB Nonoxidative coloring agents for temporary coloring of keratin fibers such as hair and wool are provided which contain  $\geq 1$  polymethine dye I [X completes a 5- or 6-membered heterocyclic ring; Y = (substituted) carbocyclic or heterocyclic ring with no OH group  $\alpha$  to the polymethine group, CHE1E2; E1, E2 = active CH<sub>2</sub>-containing group; E1CE2 may form a nonarom. ring; n = 0-2]. Thus, 5-hydroxy-1-hydroxyethyl-3-methyl-1H-pyrazole reacted with 4-bis(2-hydroxyethyl)aminobenzaldehyde in refluxing EtOH to form 4-[4-bis(2-hydroxyethyl)aminobenzylidene]-2-(2-hydroxyethyl)-5-methyl-2,4-dihydropyrazol-3-one (II). Application of a dye solution containing II 0.8, EtOH 10.0, and 25% aqueous polyoxyethylene lauryl ether 10.0 g in 100.0 g H<sub>2</sub>O to bleached hair at 40° for 20 min produced a brilliant orange color, which was almost completely decolorized by treatment with 10% Na<sub>2</sub>SO<sub>3</sub>.
- IC ICM A61K007-13
- ICA ICS D06P003-04; C09B023-02
- CC 62-3 (Essential Oils and Cosmetics)
- ST Section cross-reference(s): 41
- IT hair temporary polymethine dye
- IT Cyanine dyes  
(agent and method for temporary coloring of keratin fibers)
- IT Oxidizing agents
- Reducing agents  
(decolorization with; agent and method for temporary coloring of keratin fibers)
- IT Sulfites  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(disulfites, reducing agents; agent and method for temporary coloring of keratin fibers)
- IT Group VIA element compounds  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(dithionites, reducing agents; agent and method for temporary coloring of keratin fibers)
- IT Hair preparations  
(dyes; agent and method for temporary coloring of keratin fibers)
- IT Peroxysulfates  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(oxidizing agents; agent and method for temporary coloring of keratin fibers)

IT Bisulfites  
Sulfites  
Thiols (organic), biological studies  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(reducing agents; agent and method for temporary coloring of keratin fibers)

IT Organic compounds, biological studies  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(reductones; agent and method for temporary coloring of keratin fibers)

IT 67-52-7D, Barbituric acid, (poly)unsatd. derivs. 137-45-1D,  
Pyrazol-3-one, (poly)unsatd. derivs. 141-84-4D, Rhodanine, (poly)unsatd.  
derivs. 461-72-3D, 2,4-Imidazolidinedione, (poly)unsatd. derivs.  
504-17-6D, Thiobarbituric acid, (poly)unsatd. derivs. 2295-31-0D,  
2,4-Thiazolidinedione, (poly)unsatd. derivs. 37342-64-6D, Pyridone,  
(poly)unsatd. derivs. 43228-53-1D, Isoxazolin-5-one, (poly)unsatd.  
derivs.  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(agent and method for temporary coloring of keratin fibers)

IT 65036-66-0P 73834-28-3P 94266-09-8P 94266-11-2P 94266-12-3P  
94266-14-5P 140214-13-7P 140214-17-1P 140214-18-2P 250211-50-8P  
250211-51-9P 250211-52-0P 250211-53-1P 250211-54-2P  
250211-55-3P 250211-56-4P 250211-58-6P 250211-59-7P  
250211-60-0P 250211-61-1P 250211-62-2P 250211-63-3P 250211-64-4P  
250211-65-5P 250211-66-6P 250211-67-7P 250211-68-8P 250211-69-9P  
250211-71-3P 250211-72-4P 250211-73-5P 250211-74-6P  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(agent and method for temporary coloring of **keratin** fibers)

IT 89-25-8, 3-Methyl-1-phenyl-2-pyrazolin-5-one 89-36-1 98-03-3,  
Thiophene-2-carboxaldehyde 100-10-7, 4-Dimethylaminobenzaldehyde  
123-08-0, 4-Hydroxybenzaldehyde 487-89-8, Indole-3-carboxaldehyde  
613-45-6, 2,4-Dimethoxybenzaldehyde 1008-72-6, Sodium  
benzaldehyde-2-sulfonate 6203-18-5, 4-Dimethylaminocinnamaldehyde  
21951-33-7 27913-86-6, 4-Bis(2-hydroxyethyl)aminobenzaldehyde  
42110-85-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(agent and method for temporary coloring of keratin fibers)

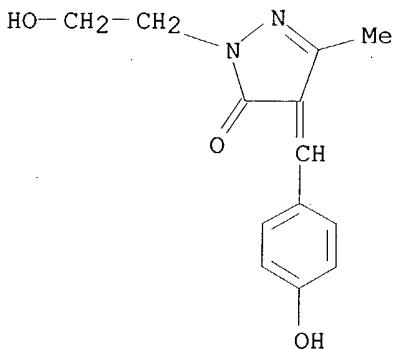
IT 100-51-6, Benzyl alcohol, biological studies 621-59-0, Isovanillin  
636-72-6, 2-Hydroxymethylthiophene  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(carrier; agent and method for temporary coloring of keratin fibers)

IT 7722-84-1, Hydrogen peroxide, biological studies 7727-54-0, Ammonium  
persulfate  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological  
study); RACT (Reactant or reagent); USES (Uses)  
(oxidizing agent; agent and method for temporary coloring of keratin  
fibers)

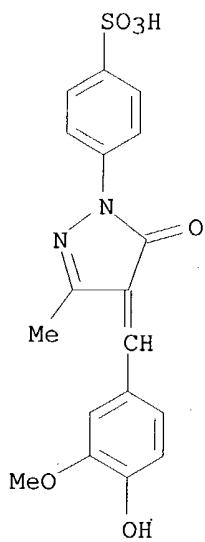
IT 10192-30-0, Ammonium hydrogen sulfite 10196-04-0, Ammonium sulfite  
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological  
study); RACT (Reactant or reagent); USES (Uses)  
(reducing agent; agent and method for temporary coloring of keratin  
fibers)

IT 250211-53-1P 250211-58-6P 250211-59-7P  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); USES (Uses)

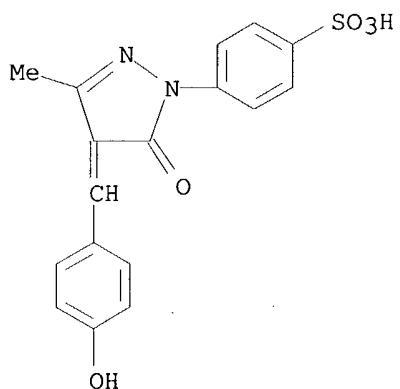
(agent and method for temporary coloring of **keratin** fibers)  
RN 250211-53-1 HCPLUS  
CN 3H-Pyrazol-3-one, 2,4-dihydro-2-(2-hydroxyethyl)-4-[(4-hydroxyphenyl)methylene]-5-methyl- (9CI) (CA INDEX NAME)



RN 250211-58-6 HCPLUS  
CN Benzenesulfonic acid, 4-[4,5-dihydro-4-[(4-hydroxy-3-methoxyphenyl)methylene]-3-methyl-5-oxo-1H-pyrazol-1-yl]- (9CI) (CA INDEX NAME)

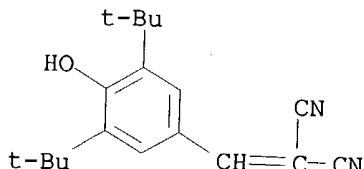


RN 250211-59-7 HCPLUS  
CN Benzenesulfonic acid, 4-[4,5-dihydro-4-[(4-hydroxyphenyl)methylene]-3-methyl-5-oxo-1H-pyrazol-1-yl]- (9CI) (CA INDEX NAME)

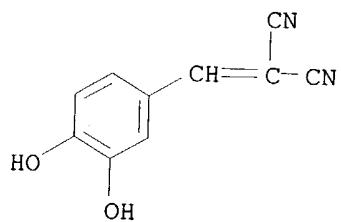


L76 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:547970 HCAPLUS  
 DN 131:295318  
 TI Tyrphostins that suppress the growth of human papilloma virus  
 16-immortalized human keratinocytes  
 AU Ben-Bassat, H.; Rosenbaum-Mitrani, S.; Hartzstark, Z.; Levitzki, R.;  
 Chaouat, M.; Shlomai, Z.; Klein, B. Y.; Kleinberger-Doron, N.; Gazit, A.;  
 Tsvieli, R.; Levitzki, A.  
 CS Laboratory of Experimental Surgery, Jerusalem, Israel  
 SO Journal of Pharmacology and Experimental Therapeutics (1999), 290(3),  
 1442-1457  
 CODEN: JPETAB; ISSN: 0022-3565  
 PB American Society for Pharmacology and Experimental Therapeutics  
 DT Journal  
 LA English  
 AB Human papilloma virus 16 (HPV16) is considered to be the causative agent for cervical cancer, which ranks second to breast cancer in women's malignancies. In an attempt to develop drugs that inhibit the malignant transformation of HPV16-immortalized epithelial cells, we examined the effect of tyrophostins on such cells. We examined the effect of tyrophostins from four different families on the growth of HPV16-immortalized human keratinocytes (HF-1) cells. We found that they alter their cell cycle distribution, their morphol., and induce cell death by apoptosis. The effects of tyrophostins on HF-1 cells are different from their effects on normal keratinocytes. Growth suppression by AG555 and AG1478 is accompanied by 30% apoptosis in HF-1 cells, but this is not observed in normal keratinocytes. Tyrophostin treatment produces distinctive morphol. changes in HF-1 cells and in normal keratinocytes; however, the culture organization of normal keratinocytes is less disrupted. These differential effects of the tyrophostins on HPV16-immortalized keratinocytes compared with their effects on normal keratinocytes suggests that these compds. are suitable candidates for the treatment of papilloma. Previous and present results indicate that group 1 tyrophostins, which inhibit Cdk2 activation, and group 2 tyrophostins, represented by AG1478, a potent epidermal growth factor receptor kinase inhibitor, induce cell cycle arrest; and, in the case of HF-1 cells, apoptosis and differentiation. Cells accumulate in the G1 phase of the cell cycle at the expense of S and G2 + M. These compds. block the growth of normal keratinocytes without inducing apoptosis or differentiation, causing them to accumulate in G1. AG17, which belongs to group 4, exerts its antiproliferative effect mainly by increasing the fractions of cells in G1

CC with a concomitant decrease in the fraction of cells in S and G2 + M.  
ST 1-8 (Pharmacology)  
ST tyrphostin human papilloma virus 16 keratinocyte; apoptosis HPV16  
IT tyrphostin cervical cancer  
IT Phosphorylation, biological  
(autophosphorylation, of EGF receptors; tyrphostins suppress growth of  
human papilloma virus 16-immortalized human keratinocytes)  
IT Epidermal growth factor receptors  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
(Biological study); PROC (Process)  
(autophosphorylation; tyrphostins suppress growth of human papilloma  
virus 16-immortalized human keratinocytes)  
IT Uterus, neoplasm  
Uterus, neoplasm  
(cervix, inhibitors; tyrphostins suppress growth of human papilloma  
virus 16-immortalized human keratinocytes)  
IT Antitumor agents  
(cervix; tyrphostins suppress growth of human papilloma virus  
16-immortalized human keratinocytes)  
IT Skin  
(keratinocyte; tyrphostins suppress growth of human papilloma virus  
16-immortalized human keratinocytes)  
IT Apoptosis  
Cell cycle  
Cell differentiation  
Human papillomavirus 16  
(tyrphostins suppress growth of human papilloma virus 16-immortalized  
human keratinocytes)  
IT Cytotoxic agents  
(tyrphostins; tyrphostins suppress growth of human papilloma virus  
16-immortalized human keratinocytes)  
IT 10537-47-0, AG 17 118409-57-7, AG 18 133550-34-2  
, AG 555 133550-35-3, AG 494 148741-31-5, AG 974  
151391-93-4, AG 814 153436-53-4, AG 1478 170448-92-7, AG 1387  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES  
(tyrphostins suppress growth of human papilloma virus 16-immortalized  
human keratinocytes)  
IT 10537-47-0, AG 17 118409-57-7, AG 18 133550-34-2  
, AG 555 133550-35-3, AG 494 148741-31-5, AG 974  
170448-92-7, AG 1387  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES  
(tyrphostins suppress growth of human papilloma virus 16-immortalized  
human keratinocytes)  
RN 10537-47-0 HCPLUS  
CN Propanedinitrile, [[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methylene]-  
(9CI) (CA INDEX NAME)

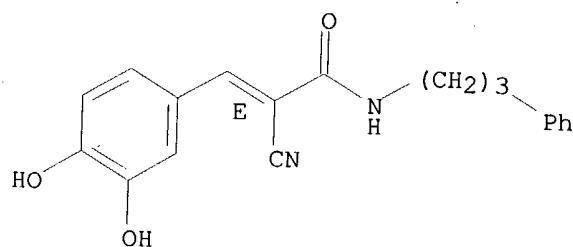


RN 118409-57-7 HCAPLUS  
CN Propanedinitrile, [(3,4-dihydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



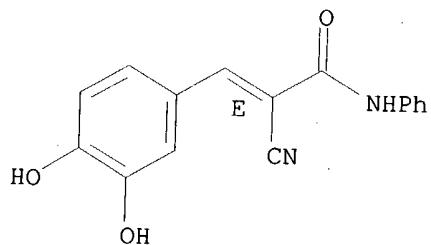
RN 133550-34-2 HCAPLUS  
CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-(3-phenylpropyl)-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

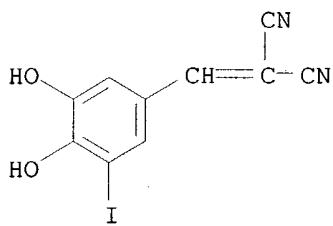


RN 133550-35-3 HCAPLUS  
CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-phenyl-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

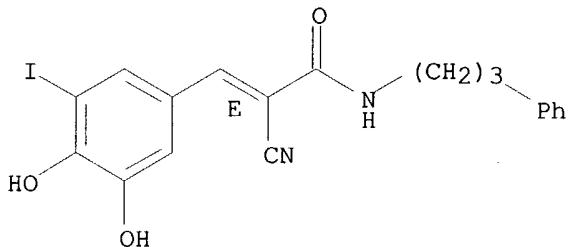


RN 148741-31-5 HCAPLUS  
CN Propanedinitrile, [(3,4-dihydroxy-5-iodophenyl)methylene]- (9CI) (CA INDEX NAME)



RN 170448-92-7 HCAPLUS  
 CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxy-5-iodophenyl)-N-(3-phenylpropyl)-,  
 (2E)- (9CI) (CA INDEX NAME)

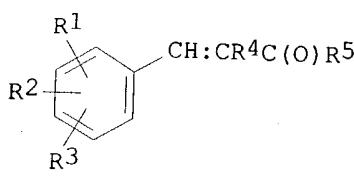
Double bond geometry as shown.



RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:716115 HCAPLUS  
 DN 129:347135  
 TI Use of benzylidene ketones for dyeing keratin fibers  
 IN Moeller, Hinrich; Hoeffkes, Horst; Meinigke, Bernd  
 PA Henkel Kommanditgesellschaft Auf Aktien, Germany  
 SO Eur. Pat. Appl., 15 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 873743	A2	19981028	EP 1998-106831	19980415
	EP 873743	A3	19991215		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19717281	A1	19981029	DE 1997-19717281	19970424
PRAI	DE 1997-19717281		19970424		
OS	MARPAT	129:347135			
GI					



- AB Benzylidene ketones [I; R1-R3 = H, halo, alkyl, hydroxyalkyl, aminoalkyl, alkoxy, (hydroxy)alkylamino, N-heterocyclyl, NO<sub>2</sub>, CO<sub>2</sub>H, SO<sub>3</sub>H; R4 = H, Cl-4 acyl; R5 = C1-4 alkyl; or R4R5 = (substituted) C1-5 alkylene] are components of nonoxidative or oxidative hair dyes which provide an intensity and fastness of color comparable to oxidative dyes and cause little or no skin sensitization. I alone impart hair colors mainly in the yellow spectral region; I may be applied together with primary or secondary amines, N-heterocyclic compds., aromatic OH compds., or compds. with active CH groups to produce orange, brown, violet, green, and black coloration. Thus, a suspension of 3,4-methylenedioxybenzylideneacetone 10, 2,5-diaminotoluene sulfate 10, NaOAc 10 mmol, and 1 drop 20% fatty alkyl ether sulfate were suspended in 100 mL H<sub>2</sub>O, the suspension was heated briefly to 80°, cooled, and filtered, and the pH was adjusted to 6. Gray hair exposed to this solution for 30 min at 30° took on a violet color.
- IC ICM A61K007-13
- CC 62-3 (Essential Oils and Cosmetics)
- ST benzylidene ketone hair dye
- IT Amines, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(aromatic; use of benzylidene ketones for dyeing keratin fibers)
- IT Amines, biological studies  
Amines, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(aryl, secondary; use of benzylidene ketones for dyeing keratin fibers)
- IT Hair preparations  
(dyes, oxidative; use of benzylidene ketones for dyeing keratin fibers)
- IT Hair preparations  
(dyes; use of benzylidene ketones for dyeing keratin fibers)
- IT Heterocyclic compounds  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(nitrogen; use of benzylidene ketones for dyeing keratin fibers)
- IT Alcohols, biological studies  
Amines, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(primary; use of benzylidene ketones for dyeing keratin fibers)
- IT Alcohols, biological studies  
Amines, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(secondary; use of benzylidene ketones for dyeing keratin fibers)
- IT Amino acids, biological studies  
Peptides, biological studies  
Phenols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(use of benzylidene ketones for dyeing keratin fibers)

IT 59-48-3, Oxindole 65-49-6, 4-Aminosalicylic acid 67-52-7, Barbituric acid 83-30-7 83-56-7, 1,5-Dihydroxynaphthalene 87-02-5, 7-Amino-4-hydroxynaphthalene-2-sulfonic acid 87-66-1, Pyrogallol 88-21-1, 2-Aminobenzenesulfonic acid 89-57-6, 5-Aminosalicylic acid 89-86-1, 2,4-Dihydroxybenzoic acid 90-05-1, 2-Methoxyphenol 90-15-3, 1-Naphthol 90-20-0, 4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid 92-44-4, 2,3-Dihydroxynaphthalene 92-65-9 95-54-5, o-Phenylenediamine, biological studies 95-55-6, 2-Aminophenol 95-70-5, 2,5-Diaminotoluene 95-88-5, 4-Chlororesorcinol 98-37-3, 3-Amino-4-hydroxybenzenesulfonic acid 99-05-8, 3-Aminobenzoic acid 99-07-0, 3-Dimethylaminophenol 99-31-0, 5-Aminoisophthalic acid 99-50-3, 3,4-Dihydroxybenzoic acid 101-77-9, 4,4'-Diaminodiphenylmethane 101-80-4 102-32-9, 3,4-Dihydroxyphenylacetic acid 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol, biological studies 108-72-5, 1,3,5-Triaminobenzene 108-73-6, Phloroglucinol 118-70-7, 4,5,6-Triaminopyrimidine 118-92-3, 2-Aminobenzoic acid 119-59-5, 4,4'-Diaminodiphenyl sulfoxide 119-70-0, 4,4'-Diaminodiphenylamine-2-sulfonic acid 120-80-9, Pyrocatechol, biological studies 121-47-1, 3-Aminobenzenesulfonic acid 121-57-3, 4-Aminobenzenesulfonic acid 122-57-6, Benzylideneacetone 123-30-8 123-31-9, 1,4-Benzenediol, biological studies 139-65-1, 4,4'-Diaminodiphenyl sulfide 141-84-4, Rhodanine 141-86-6, 2,6-Diaminopyridine 149-91-7, Gallic acid, biological studies 150-13-0 150-19-6, 3-Methoxyphenol 150-75-4, 4-Methylaminophenol 150-76-5, 4-Methoxyphenol 156-81-0, 2,4-Diaminopyrimidine 452-58-4, 2,3-Diaminopyridine 462-08-8, 3-Aminopyridine 480-66-0 488-87-9, 2,5-Dimethylresorcinol 496-73-1, 4-Methylresorcinol 504-15-4, 5-Methylresorcinol 504-17-6, Thiobarbituric acid 504-24-5, 4-Aminopyridine 504-29-0, 2-Aminopyridine 517-22-6, 2,4-Dimethyl-3-ethylpyrrole 533-31-3, 3,4-Methylenedioxypyhenol 533-73-3, Hydroxyhydroquinone 535-87-5, 3,5-Diaminobenzoic acid 537-65-5, 4,4'-Diaminodiphenylamine 578-66-5, 8-Aminoquinoline 580-17-6, 3-Aminoquinoline 580-22-3, 2-Aminoquinoline 582-17-2, 2,7-Dihydroxynaphthalene 591-27-5, 3-Aminophenol 603-81-6, 2,3-Diaminobenzoic acid 606-55-3 608-25-3, 2-Methylresorcinol 610-74-2, 2,5-Diaminobenzoic acid 611-03-0, 2,4-Diaminobenzoic acid 611-98-3, 4,4'-Diaminobenzophenone 615-50-9 615-66-7, 2-Chloro-p-phenylenediamine 615-71-4, 1,2,4-Triaminobenzene 619-05-6, 3,4-Diaminobenzoic acid 623-09-6 636-25-9, 2,5-Diaminophenol 876-87-9 934-22-5, 5-Aminobenzimidazole 943-88-4, 4-Methoxybenzylideneacetone 1004-74-6, 2,4,5,6-Tetraaminopyrimidine 1004-75-7, 4-Hydroxy-2,5,6-triaminopyrimidine 1080-12-2, 4-Hydroxy-3-methoxybenzylideneacetone 1123-55-3, 7-Aminobenzothiazole 1125-60-6, 5-Aminoisoquinoline 1197-55-3, 4-Aminophenylacetic acid 1455-77-2, 3,5-Diamino-1,2,4-triazole 1571-72-8, 3-Amino-4-hydroxybenzoic acid 1820-80-0, 3-Aminopyrazole 1953-54-4, 5-Hydroxyindole 2374-03-0, 4-Amino-3-hydroxybenzoic acid 2380-84-9, 7-Hydroxyindole 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2654-52-6, 2,3-Dimethylbenzothiazolium p-toluenesulfonate 2785-06-0, 2,3-Dimethylbenzothiazolium iodide 2835-95-2, 2-Methyl-5-aminophenol 2835-99-6, 3-Methyl-4-aminophenol 3131-52-0, 5,6-Dihydroxyindole 3158-63-2, 1,3-Dimethylthiobarbituric acid 3160-35-8 3160-37-0 3167-49-5, 6-Aminonicotinic acid 3855-78-5, 2,3,4-Trimethylpyrrole 4318-76-7, 2,5-Diaminopyridine 4331-29-7, 4-Aminobenzimidazole 4335-90-4, 3-Benzylidene-2,4-pentanedione 4506-66-5, 1,2,4,5-Tetraaminobenzene tetrahydrochloride 4928-43-2 5007-67-0, 3,3',4,4'-Tetraaminobenzophenone 5192-03-0, 5-Aminoindole 5192-04-1,

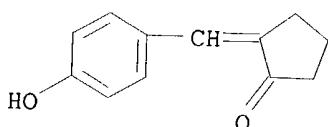
7-Aminoindole 5192-23-4, 4-Aminoindole 5217-47-0, 1,3-Diethylthiobarbituric acid 5318-27-4, 6-Aminoindole 5345-47-1, 2-Aminonicotinic acid 5432-53-1 5434-20-8, 3-Aminophthalic acid 5679-13-0, 2-Benzylidenecyclopentanone 5682-83-7, 2-Benzylidenecyclohexanone 5718-83-2, Rhodanine-3-acetic acid 5959-52-4, 3-Amino-2-naphthoic acid 6051-53-2, 2-Hydroxybenzylideneacetone 6201-65-6, 2-Chlororesorcinol 6259-50-3 6399-72-0 6628-04-2, 4-Aminoquinaldine 6967-12-0, 6-Aminoindazole 7169-34-8, Coumaranone 7336-20-1, Disodium 4,4'-diaminostilbene-2,2'-disulfonate 7411-49-6 7575-35-1, N,N-Bis(2-hydroxyethyl)-p-phenylenediamine 7749-47-5, 2-Amino-4-methoxy-6-methylpyrimidine 7768-28-7, 2-(2-Hydroxyethyl)phenol 13754-19-3, 4,5-Diaminopyrimidine 14268-66-7, 3,4-Methylenedioxyaniline 16082-33-0, 3,5-Diaminopyrazole 16867-03-1, 2-Amino-3-hydroxypyridine 17792-58-4 19335-11-6, 5-Aminoindazole 20103-09-7, 2,5-Dichloro-p-phenylenediamine 22715-34-0, 2-Hydroxy-4,5,6-triaminopyrimidine 23244-87-3, 2,4,5-Pyridinetriamine 23894-07-7, 3,6-Dihydroxy-2,7-naphthalenedisulfonic acid 24119-24-2 28020-38-4, 2,3-Diamino-6-methoxypyridine 29539-03-5, 5,6-Dihydroxyindoline 41927-50-8 41946-53-6 42426-35-7 49647-58-7, 2,4,5,6-Tetraaminopyrimidine sulfate 53666-79-8 53760-27-3, 4,4'-Diaminodiphenylamine sulfate 55302-96-0, 2-Methyl-5-(2-hydroxyethylamino)phenol 56216-28-5 58262-44-5 **61078-47-5** **61078-48-6** 61693-42-3 62496-02-0, 2-Methylamino-4,5,6-triaminopyrimidine 63053-27-0, 3-(4-Dimethylaminobenzylidene)-2,4-pentanedione 65443-86-9 66566-48-1 66635-40-3 67805-13-4 69984-77-6, 7-Aminobenzimidazole 70643-19-5, 2,4-Diaminophenoxyethanol 74918-21-1 79352-72-0 83732-72-3 84540-47-6, 2,6-Dihydroxy-3,4-dimethylpyridine 84540-50-1 85679-78-3, 3,5-Diamino-2,6-dimethoxypyridine 85926-99-4, 4-Hydroxyindoline 90817-34-8, 3-Amino-2-methylamino-6-methoxypyridine 93841-24-8, 2-(2,5-Diaminophenyl)ethanol 93841-25-9 104333-09-7 110102-86-8 114402-54-9 115423-86-4 128729-30-6 130582-56-8 131212-31-2 137290-86-9 144644-13-3 159661-42-4 202525-71-1 202525-73-3 202525-74-4 202525-75-5 202525-76-6 202525-77-7 202525-78-8 202525-79-9 215377-52-9 215377-53-0 215377-55-2 215377-56-3 215517-65-0 215517-66-1 215517-68-3

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

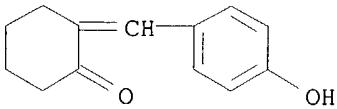
IT **61078-47-5** **61078-48-6**  
(use of benzylidene ketones for dyeing **keratin** fibers)

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

RN **61078-47-5** HCPLUS  
CN Cyclopentanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



RN 61078-48-6 HCPLUS  
CN Cyclohexanone, 2-[(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



L76 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:537999 HCAPLUS  
 DN 129:140457  
 TI Hair compositions containing a ceramide and a sulfonic UV filter  
 IN Dubief, Claude; Cauwet, Martin Daniele  
 PA L'Oreal S. A., Fr.  
 SO Fr. Demande, 25 pp.  
 CODEN: FRXXBL  
 DT Patent  
 LA French  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI FR 2757382	A1	19980626	FR 1996-15762	19961220
FR 2757382	B1	19990205		
EP 852134	A1	19980708	EP 1997-402952	19971205
EP 852134	B1	20011205		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 209889	E	20011215	AT 1997-402952	19971205
PT 852134	T	20020531	PT 1997-402952	19971205
ES 2169339	T3	20020701	ES 1997-402952	19971205
AU 9746914	A1	19980625	AU 1997-46914	19971208
AU 703469	B2	19990325		
BR 9706297	A	19990504	BR 1997-6297	19971218
US 6190676	B1	20010220	US 1997-993313	19971218
CA 2222861	AA	19980620	CA 1997-2222861	19971219
CA 2222861	C	20021203		
JP 10182364	A2	19980707	JP 1997-351450	19971219
JP 3192998	B2	20010730		
CN 1196924	A	19981028	CN 1997-129724	19971219
CN 1104879	B	20030409		
RU 2141307	C1	19991120	RU 1997-121236	19971219
PRAI FR 1996-15762	A	19961220		
OS MARPAT 129:140457				
AB Hair compns. containing a ceramide and a sulfonic UV filter are disclosed. A shampoo contained 2-hydroxy-4-methoxybenzophenone-5-sulfonic acid 0.5, 2-N-oleoylamino-octadecane-1,3-diol 0.5, ethoxylated sodium lauryl ether sulfate 13.8, 30% cocoyl-betaine 2.5, and water q.s. 100 g, pH = 5.				
IC ICM A61K007-06				
CC 62-3 (Essential Oils and Cosmetics)				
ST hair compn ceramide sulfonic UV filter; sunscreen shampoo benzophenone sulfonic acid oleoylaminoctadecane				
IT Hair preparations				
Shampoos				
Sunscreens				
(hair compns. containing ceramide and sulfonic UV filter)				
IT Ceramides				
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
(hair compns. containing ceramide and sulfonic UV filter)				

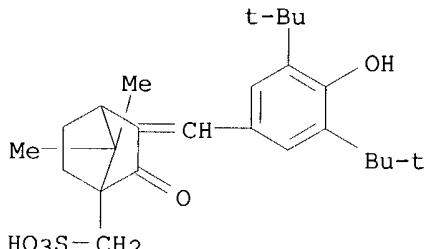
IT Hair preparations  
 (lotions; hair compns. containing ceramide and sulfonic UV filter)

IT 2304-80-5 4065-45-6 5966-29-0 27503-81-7 34227-66-2 34227-83-3  
 54472-82-1 54472-84-3 54472-92-3 54472-93-4 56039-58-8  
 92761-26-7 98758-62-4 110483-07-3 110861-93-3 147492-65-7  
 149591-38-8 160065-31-6 169329-85-5 169329-86-6 **169329-87-7**  
 169329-88-8 169529-07-1 170864-84-3 182251-17-8 184426-48-0  
 184426-49-1 184426-50-4 190249-36-6 190274-06-7 190381-46-5  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (hair compns. containing ceramide and sulfonic UV filter)

IT **169329-87-7**  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (hair compns. containing ceramide and sulfonic UV filter)

RN 169329-87-7 HCPLUS

CN Bicyclo[2.2.1]heptane-1-methanesulfonic acid, 3-[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl)methylene]-7,7-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



L76 ANSWER 15 OF 18 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1997:461636 HCPLUS  
 DN 127:85813  
 TI Reduction of hair growth with suppressor of the metabolic pathway for the conversion of glucose to acetyl-CoA  
 IN Henry, James; Ahluwalia, Gurpreet; Shander, Douglas  
 PA Handelman, Joseph, H., USA; Henry, James; Ahluwalia, Gurpreet; Shander, Douglas  
 SO PCT Int. Appl., 16 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9719673	A2	19970605	WO 1996-US19102	19961125
WO 9719673	A3	19971002		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5652273	A	19970729	US 1995-565728	19951130

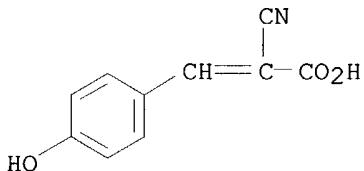
ZA 9609781	A 19970610	ZA 1996-9781	19961121
CA 2237780	AA 19970605	CA 1996-2237780	19961125
CA 2237780	C 20020129		
AU 9710865	A1 19970619	AU 1997-10865	19961125
AU 728886	B2 20010118		
EP 863741	A2 19980916	EP 1996-940921	19961125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI	A 19990406	BR 1996-11756	19961125
BR 9611756	T2 20000202	JP 1997-520706	19961125
JP 2000501098	A2 20031015	EP 2003-10707	19961125
EP 1352627	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI		
US 5824665	A 19981020	US 1997-842054	19970423
US 6218435	B1 20010417	US 1998-118946	19980717
PRAI US 1995-565728	A1 19951130		
EP 1996-940921	A3 19961125		
WO 1996-US19102	W 19961125		
US 1997-842054	A3 19970423		
AB A method of reducing hair growth in a mammal includes applying, to an area of skin from which reduced hair growth is desired, dermatol. acceptable composition containing a suppressor of the metabolic pathway for the conversion of glucose to acetyl-CoA. A 10% solution of N- $\alpha$ -(p-tosyl)-L-lysine chloromethyl ketone in a vehicle comprising water 68, ethanol 16, propylene glycol 5, dipropylene glycol 5, benzyl alc. 4, and propylene carbonate 2% inhibited hair growth in hamster by 81%.			
IC ICM A61K007-06			
CC 62-3 (Essential Oils and Cosmetics)			
ST hair growth inhibitor glucose acetylcoenzyme suppressor			
IT Carbohydrates, biological studies			
RL: BSU (Biological study, unclassified); BIOL (Biological study) (aldoses, inhibitors; reduction of hair growth with suppressor of metabolic pathway for conversion of glucose to acetyl-CoA)			
IT Hair preparations			
IT Hirsutism			
IT Metabolic pathways			
IT Lactones			
IT RL: BUU (Biological use, unclassified); BIOL (Biological study); USES ( $\alpha$ -methylene; reduction of hair growth with suppressor of metabolic pathway for conversion of glucose to acetyl-CoA)			
IT 9001-51-8, Hexokinase 9001-59-6, Pyruvate kinase 9001-80-3, Phosphofructokinase 9001-83-6, Phosphoglycerate kinase 9014-08-8, Enolase 9014-20-4, Pyruvate dehydrogenase			
IT RL: BSU (Biological study, unclassified); BIOL (Biological study) (inhibitors; reduction of hair growth with suppressor of metabolic pathway for conversion of glucose to acetyl-CoA)			
IT 50-99-7, Glucose, biological studies			
IT RL: BSU (Biological study, unclassified); BIOL (Biological study) (reduction of hair growth with suppressor of metabolic pathway for conversion of glucose to acetyl-CoA)			
IT 72-89-9, Acetyl-CoA			
IT RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative) (reduction of hair growth with suppressor of metabolic pathway for conversion of glucose to acetyl-CoA)			

IT 59-00-7 60-82-2, Phloretin 93-10-7, Quinaldic acid 138-81-8  
 154-17-6, 2-Deoxyglucose 298-12-4 433-48-7, Fluoropyruvic acid  
 492-27-3 502-87-4 576-47-6, 6-Amino-6-deoxy-glucose 666-99-9, Agaric  
 acid 820-11-1 1113-59-3, Bromopyruvic acid 1684-29-3,  
 5-keto-D-Fructose 2364-87-6 2490-91-7, 3-Deoxyglucose 3443-58-1,  
 D(-)-3-Phosphoglyceric acid 3615-17-6, N-Acetyl- $\beta$ -D-mannosamine  
 14049-03-7 14307-02-9, D-Mannosamine 14886-81-8 17994-25-1,  
 Hydroxy-1-cyclopropanecarboxylic acid 18542-37-5, Vernolepin  
 19039-02-2, Taxodone 20408-97-3, 5-Thio-D-glucose 28166-41-8,  
 $\alpha$ -Cyano-4-hydroxycinnamic acid 29702-43-0, 2-Deoxy-2-fluoro-D-  
 glucose 33854-15-8, Eupacunin 39217-32-8, 5-keto-D-Fructose-1,6-  
 bisphosphate 41627-63-8 41627-64-9 57454-44-1, 5'-p-  
 Fluorosulfonylbenzoyl adenosine 74804-09-4 99128-97-9 173266-82-5  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (reduction of hair growth with suppressor of metabolic pathway  
 for conversion of glucose to acetyl-CoA)

IT 50-99-7, D-Glucose, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
 (Biological study); PROC (Process)  
 (transport; inhibitors; reduction of hair growth with suppressor of  
 metabolic pathway for conversion of glucose to acetyl-CoA)

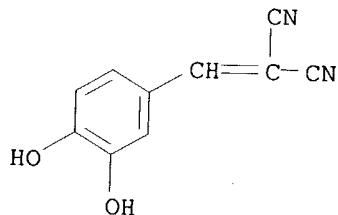
IT 28166-41-8,  $\alpha$ -Cyano-4-hydroxycinnamic acid  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (reduction of hair growth with suppressor of metabolic pathway  
 for conversion of glucose to acetyl-CoA)

RN 28166-41-8 HCAPLUS  
 CN 2-Propenoic acid, 2-cyano-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



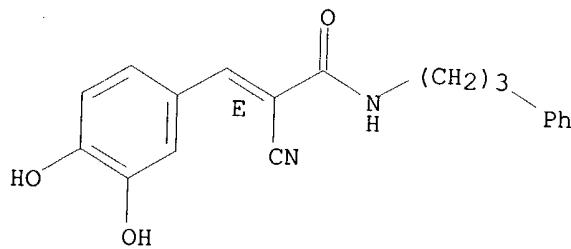
L76 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:558179 HCAPLUS  
 DN 123:25264  
 TI Tyrphostins suppress the growth of psoriatic keratinocytes  
 AU Ben-Bassat, Hannah; Vardi, Daniel V.; Gazit, Aviv; Klaus, Sidney N.;  
 Chaouat, Malka; Hartzstark, Zipora; Levitzki, Alexander  
 CS Laboratory of Experimental Surgery, Hadassah University Hospital,  
 Jerusalem, Israel  
 SO Experimental Dermatology (1995), 4(2), 82-8  
 CODEN: EXDEEY; ISSN: 0906-6705  
 DT Journal  
 LA English  
 AB Tyrosine kinase inhibitors of the tyrphostin family which block EGF  
 receptor kinase are reported to arrest the growth of psoriatic  
 keratinocytes in vitro. Three tyrphostins with the potency ratio AG555 >>  
 AG18 >> AG814 were found to arrest growth with no adverse cytotoxic  
 effects. The potency ratio to inhibit keratinocyte proliferation follows  
 their potency to inhibit EGF receptor kinase activity in vitro. These  
 compds. represent novel leads for the therapy of psoriasis.

CC 1-6 (Pharmacology)  
 ST keratinocyte psoriasis inhibition tyrphostin  
 IT Cell cycle  
 Cell proliferation  
 Psoriasis  
     (tyrphostin suppression of growth of psoriatic keratinocyte)  
 IT Animal growth regulators  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES  
     (tyrphostin suppression of growth of psoriatic keratinocyte)  
 IT Skin  
     (keratinocyte, tyrphostin suppression of growth of psoriatic keratinocyte)  
 IT Cytotoxic agents  
     (typhostins, typhostin suppression of growth of psoriatic keratinocyte)  
 IT 118409-57-7, AG 18 133550-34-2 151391-93-4  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES  
     (typhostin suppression of growth of psoriatic **keratinocyte**)  
 IT 118409-57-7, AG 18 133550-34-2  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES  
     (typhostin suppression of growth of psoriatic **keratinocyte**)  
 RN 118409-57-7 HCPLUS  
 CN Propanedinitrile, [(3,4-dihydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



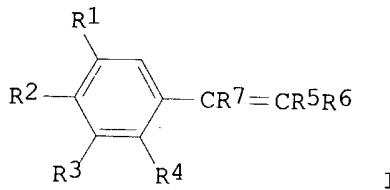
RN 133550-34-2 HCPLUS  
 CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-(3-phenylpropyl)-, (2E)-  
     (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L76 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:478609 HCAPLUS  
 DN 115:78609  
 TI Hair growth-stimulating compositions containing aryl-substituted ethylene  
 IN Green, Martin Richard  
 PA Unilever PLC, UK; Unilever N. V.  
 SO Eur. Pat. Appl., 33 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 403238	A2	19901219	EP 1990-306415	19900613
	EP 403238	A3	19920304		
	R: AT, BE, CH, CA 2018737	DE, DK, ES, FR, GB, GR, IT, LI, NL, SE	19901214	CA 1990-2018737	19900611
	US 5124354	A	19920623	US 1990-536135	19900611
	JP 03063213	A2	19910319	JP 1990-156573	19900614
PRAI	GB 1989-13708		19890614		
OS	MARPAT 115:78609				
GI					



AB A hair growth-stimulating composition comprises the title compds. (I; R1-R4 = H, OH, OCnH2n+1, NO2, Cl, Br, F, CHO; R5, R6 = H, CN, CO2H, CONH2, CSNH2; R7 = H, OH; n = 1-8) at the amount being sufficient to increase the hair growth by  $\geq 10\%$  in the rat, when the composition is applied topically thereto for  $\leq 3$  mo. I inhibit the activity of protein tyrosine kinase. A cream for the treatment of baldness contained I (R1 = R2 = OH, R3 = OMe, R4 = R7 = H, R5 = R6 = CN) 2, ethoxylated cetyl alc. 4, cetyl alc. 4, mineral oil 4, triethanolamine 0.75, butane-1,3-diol 3, xanthan gum 0.3, preservatives 0.4, perfumes q.s., and water to 100. permill..

IC ICM A61K007-06  
 ICS A61K007-48

CC 62-3 (Essential Oils and Cosmetics)

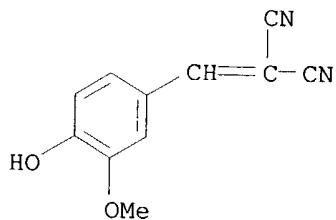
ST hair growth stimulant phenylethylene deriv

IT Alopecia  
 (treatment of, phenylethylene derivs. for)

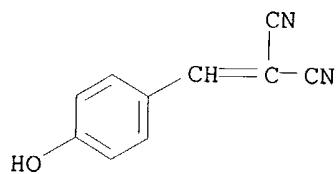
IT Hair preparations  
 (growth stimulants, phenylethylene derivs. in, as protein tyrosine kinase inhibitors)

IT 331-39-5 1519-55-7 **3696-12-6** 3785-90-8 7255-96-1  
 7400-08-0 17449-03-5 **28166-41-8** 72791-61-8  
 82575-52-8 **118409-54-4** 118409-55-5 **118409-56-6**  
**118409-57-7** **118409-58-8** **118409-59-9**  
**118409-60-2** 118409-62-4 118409-63-5 118409-64-6  
 118409-65-7 118409-66-8 **118409-67-9** 118409-68-0  
 RL: BIOL (Biological study)

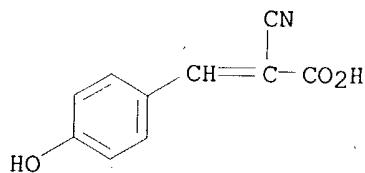
IT (hair growth-stimulating compns. containing)  
38304-91-5, Minoxidil  
RL: BIOL (Biological study)  
(hair growth-stimulating compns. containing phenylethylene derivs. and)  
IT 80449-02-1, Protein tyrosine kinase  
RL: USES (Uses)  
(inhibitors, phenylethylene derivs. as, hair growth-stimulating compns.  
containing)  
IT 3696-12-6 3785-90-8 28166-41-8  
72791-61-8 118409-54-4 118409-56-6  
118409-57-7 118409-58-8 118409-59-9  
118409-60-2 118409-67-9  
RL: BIOL (Biological study)  
(hair growth-stimulating compns. containing)  
RN 3696-12-6 HCPLUS  
CN Propanedinitrile, [(4-hydroxy-3-methoxyphenyl)methylene]- (9CI) (CA INDEX NAME)



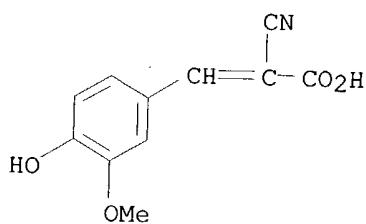
RN 3785-90-8 HCPLUS  
CN Propanedinitrile, [(4-hydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



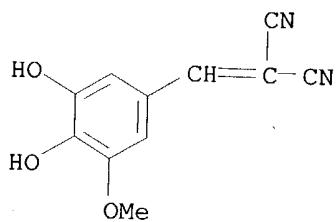
RN 28166-41-8 HCPLUS  
CN 2-Propenoic acid, 2-cyano-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



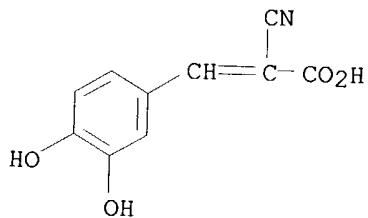
RN 72791-61-8 HCPLUS  
CN 2-Propenoic acid, 2-cyano-3-(4-hydroxy-3-methoxyphenyl)- (9CI) (CA INDEX NAME)



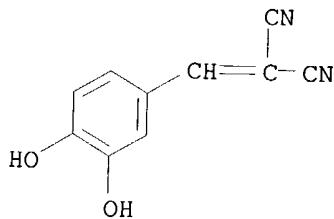
RN 118409-54-4 HCPLUS  
CN Propanedinitrile, [(3,4-dihydroxy-5-methoxyphenyl)methylene]- (9CI) (CA INDEX NAME)



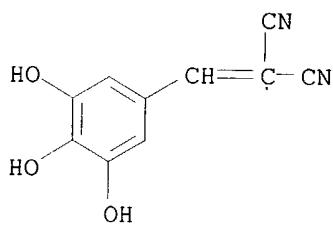
RN 118409-56-6 HCPLUS  
CN 2-Propenoic acid, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 118409-57-7 HCPLUS  
CN Propanedinitrile, [(3,4-dihydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)

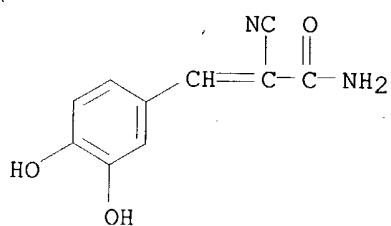


RN 118409-58-8 HCPLUS  
CN Propanedinitrile, [(3,4,5-trihydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



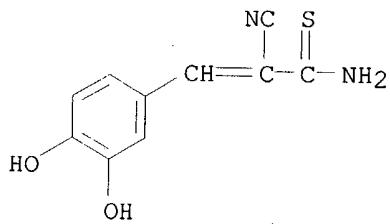
RN 118409-59-9 HCAPLUS

CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)



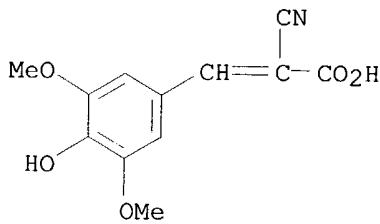
RN 118409-60-2 HCAPLUS

CN 2-Propenethioamide, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 118409-67-9 HCAPLUS

CN 2-Propenoic acid, 2-cyano-3-(4-hydroxy-3,5-dimethoxyphenyl)- (9CI) (CA INDEX NAME)



L76 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN

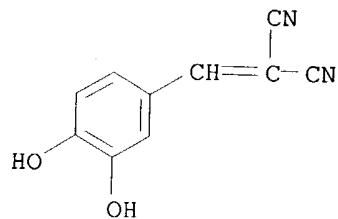
AN 1991:241329 HCAPLUS

DN 114:241329

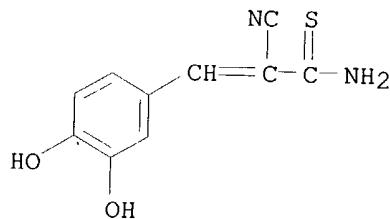
TI The inhibition of EGF-dependent proliferation of keratinocytes by

AU tyrphostin tyrosine kinase blockers  
AU Dvir, Arik; Milner, Yoram; Chomsky, Orna; Gilon, Chaim; Gazit, Aviv;  
Levitzki, Alexander  
CS Dep. Biol. Chem., Hebrew Univ., Jerusalem, 91904, Israel  
SO Journal of Cell Biology (1991), 113(4), 857-65  
CODEN: JCLBA3; ISSN: 0021-9525  
DT Journal  
LA English  
AB Protein tyrosine kinase blockers of the tyrphostin family inhibited the EGF-dependent proliferation of human and guinea pig keratinocytes grown in culture and induced their growth arrest. These blockers also inhibited the growth of epidermal keratinocytes, but not of dermal cells, in whole skin organ culture from both guinea pig and human origin. The antiproliferative activity of these tyrphostins correlated quant. with their potency as inhibitors of EGF receptor autophosphorylation and the EGF-dependent protein phosphorylation of intracellular target proteins in the keratinocyte. Furthermore, no cell cytotoxicity or reduction in serine and threonine phosphorylation of many intracellular polypeptides were observed upon incubation of the cells with tyrphostins like AG213. The complete growth arrest induced by the tyrphostins is fully reversible and upon their removal the keratinocytes resumed their growth with the original growth rate. Because of the nontoxic nature of these compds. and their growth-arresting properties, their use as agents to treat hyperproliferative conditions of human skin is suggested.  
CC 2-10 (Mammalian Hormones)  
Section cross-reference(s): 1  
ST EGF keratinocyte proliferation tyrosine kinase blocker; tyrphostin tyrosine kinase EGF keratinocyte  
IT Receptors  
RL: BIOL (Biological study)  
(autophosphorylation of, EGF induction of, in keratinocyte of human and laboratory animal, tryphostin tyrosine kinase blockers inhibition of)  
IT Cell division  
(by keratinocyte , from human and laboratory animal, EGF induction of, tyrphostin tyrosine kinase blocker inhibition of)  
IT Phosphoproteins  
RL: BIOL (Biological study)  
(phosphorylation of, EGF induction of, in keratinocyte of human and laboratory animal, tyrphostin tyrosine kinase blockers inhibition of)  
IT Phosphorylation, biological  
(auto-, of EGF receptors, tyrphostin effect on, keratinocyte proliferation in human and laboratory animal in relation to)  
IT Skin  
(keratinocyte, proliferation of, of human and laboratory animal, EGF induction of, tyrphostin tyrosine kinase blockers inhibition of)  
IT Cytotoxic agents  
(tyrphostins, keratinocyte proliferation stimulation by EGF inhibition by, from human and laboratory animal)  
IT 118409-57-7 118409-60-2 134036-52-5  
134036-53-6  
RL: BIOL (Biological study)  
(keratinocyte proliferation stimulation by EGF inhibition by, from human and laboratory animal)  
IT 62229-50-9, EGF  
RL: BIOL (Biological study)  
(keratinocyte proliferation stimulation by, from human and laboratory animal in culture, tyrphostin tyrosine kinase blockers inhibition of)  
IT 80449-02-1, Tyrosine kinase  
RL: BIOL (Biological study)

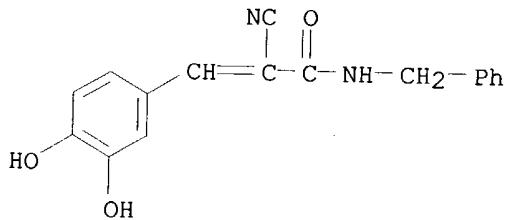
(tryphostin blockers of, EGF-induced keratinocyte proliferation  
inhibition by, from human and laboratory animal)  
IT 79079-06-4, EGF receptor tyrosine kinase  
RL: BIOL (Biological study)  
(tryphostin inhibititon of, keratinocyte proliferation response to EGF  
in human and laboratory animal in relation to)  
IT 118409-57-7 118409-60-2 134036-52-5  
RL: BIOL (Biological study)  
(keratinocyte proliferation stimulation by EGF inhibition by,  
from human and laboratory animal)  
RN 118409-57-7 HCPLUS  
CN Propanedinitrile, [(3,4-dihydroxyphenyl)methylene]- (9CI) (CA INDEX NAME)



RN 118409-60-2 HCPLUS  
CN 2-Propenethioamide, 2-cyano-3-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX  
NAME)



RN 134036-52-5 HCPLUS  
CN 2-Propenamide, 2-cyano-3-(3,4-dihydroxyphenyl)-N-(phenylmethyl)- (9CI)  
(CA INDEX NAME)



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